APPLIED RESEARCH BRANCH

Strategic Policy

Development of Prosocial [illegible]

by
Rauno K. Parrila, Xin Ma, Doug Fleming
and Christina Rinaldi
October 2002

Working Paper

Human Resources Development Canada
Développement des ressources humaines Canada

Canada

SP-550-12-02E

103-07313/

Development of Prosocial Skills

Final Report

Rauno K. Parrila, Xin Ma, Darcy Fleming and Christina Rinaldi
Applied Research Branch
Strategic Policy
Human Resources Development Canada

October 2002

SP-550-12-02E
(également disponible en français)

The views expressed in papers published by the Applied Research Branch are the authors' and do not necessarily reflect the opinions of Human Resources Development Canada or of the federal government.

The Working Paper Series includes analytical studies and research conducted under the auspices of the Applied Research Branch of Strategic Policy. Papers published in this series incorporate primary research with an empirical or original conceptual orientation, generally forming part of a broader or longer-term program of research in progress. Readers of the series are encouraged to contact the authors with comments and suggestions.

■

This paper is available in French under the title *Développement des compétences prosociales (0-662-89318-2, RH63-1/550-12-02F).*
La version française du présent document est disponible sous le titre *Développement des compétences prosociales (0-662-89318-2, RH63-1/550-12-02F).*

■

Paper
ISBN: 0-662-33444-2
Cat. No.: RH63-1/550-12-02E

Internet
ISBN: 0-662-33445-0
Cat. No.: RH63-1/550-12-02E-IN

■

General enquiries regarding the documents published by the Applied Research Branch should be addressed to:

Human Resources Development Canada
Publications Centre
140 Promenade du Portage, Phase IV, Level 0
Gatineau, Quebec, Canada
K1A 0J9

Facsimile: (819) 953-7260
http://www.hrdc-drhc.gc.ca/sp-ps/arb-dgra

Si vous avez des questions concernant les documents publiés par la Direction générale de la recherche appliquée, veuillez communiquer avec :

Développement des ressources humaines Canada
Centre des publications
140, Promenade du Portage, Phase IV, niveau 0
Gatineau (Québec) Canada
K1A 0J9

Télécopieur : (819) 953-7260
http://www.hrdc-drhc.gc.ca/sp-ps/arb-dgra

Table of Contents

Abstract .... **i**

1. Introduction **1**

1.1 A Breakdown of Bronfenbrenner's Bioecological Model 2
1.2 Social Competence: The Focus on Prosocial Behaviours 3
1.3 Individual Factors 5
1.4 Microsystem Factors 7
1.5 Mesosystem Factors 9
1.6 Exosystem Factors 10
1.7 Macrosystem Factors 10
1.8 The Present Study 10

2. Method **13**

2.1 The Analysis Plan 13
2.2 Participants 13
2.3 Variables 15
  2.3.1 Dependent Variables 15
  2.3.2 Independent Variables 16

3. Results **21**

3.1 Descriptives 21
3.2 Hierarchical Linear Models 25
  3.2.1 A Brief Introduction to Hierarchical Linear Models 25
  3.2.2 Growth Models for Prosocial Skills 27
  3.2.3 Level 2 Models for the Intercept and Linear Growth Coefficients 29

4. Discussion **43**

Appendix A **51**

Appendix B **63**

Bibliography **83**

List of Tables

Table 1 Items Measuring Prosocial Skills on Parent and Teacher Questionnaires 16

Table 2 Different Clusters of Independent Variables 17

Table 3 Means and Standard Deviations for the two Parent Samples 21

Table 4 Means and Standard Deviations for the two Teacher Samples 23

Table 5 Cross Tabulation of Categorical Variables for Parent and Teacher Samples 25

Table 6 Unconditional Growth Models for Prosocial Skills 28

Table 7a Significant Parent Reported Child Level Predictors of Parent's Ratings of Their Children's Prosocial Skills (N=847) 31

Table 7b Significant Family Level Predictors of Parent's Ratings of Their Children's Prosocial Skills (N=847) 32

Table 7c Significant Community Level Predictors of Parent's Ratings of Their Children's Prosocial Skills (N=847) 33

Table 7d Significant Parent Reported Predictors of Parent's Ratings of Their Children's Prosocial Skills (N=847) 34

Table 8a Significant Parent Reported Child Level Predictors of Teacher's Ratings of Children's Prosocial Skills (N=456) 36

Table 8b Significant Family Level Predictors of Teacher's Ratings of Their Children's Prosocial Skills (N=456) 37

Table 8c Significant Community Level Predictors of Teacher's Ratings of Children's Prosocial Skills (N=456) 37

Table 8d Significant Parent Reported Predictors of Teacher Ratings of Children's Prosocial Skills (N=456) 38

Table 9a Significant Teacher and Parent Reported Child Level Predictors of Teacher's Ratings of Children's Prosocial Skills (N=286) 39

Table 9b Significant Family Level Predictors of Teacher's Ratings of Their Children's Prosocial Skills (N=287) 40

Table 9c Significant School Level Predictors of Teacher's Ratings of Their Children's Prosocial Skills (N=286) 41

Table 9d Significant Parent and Teacher Reported Predictors of Teacher Ratings of Children's Prosocial Skills (N=285) 42

Table A1 Group Comparisons Between Parent Sample 1 and Excluded 7-year-old Cycle 1 Children 51

Table A2 Group Comparisons Between Parent Sample 2 and Excluded 7-year-old Cycle 1 Children 53

Table A3 Group Comparisons Between Teacher Sample 1 and Excluded 7-year-old Cycle 1 Children 55

Table A4 Group Comparisons Between Teacher Sample 2 and Excluded 7-year-old Cycle 1 Children 57

Table A5 Group Comparisons Between Parent Sample 1 and Excluded 7-year-old Cycle 1 Children 59

Table A6 Group Comparisons Between Parent Sample 2 and Excluded 7-year-old Cycle 1 Children 60

Table A7 Group Comparisons Between Teacher Sample 1 and Excluded 7-year-old Cycle 1 Children 61

Table A8 Group Comparisons Between Teacher Sample 2 and Excluded 7-year-old Cycle 1 Children 62

Table B1 Zero-order Correlations Between Independent and Dependent Variables in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal) 63

Table B2 Zero-order Correlations Between Independent and Dependent Variables in Teacher Sample 1 (below the diagonal) and Teacher Sample 2 (above the diagonal) 75

Abstract

Children's social adjustment has been the focus of intense investigation in recent years. In part, this focus is a result of substantial research demonstrating strong links between early social competence and later life adjustment and healthy development. The close connection between prosocial skills and a wide variety of future developmental outcomes provides a compelling rationale to examine what factors are associated with positive development of prosocial skills. The present study explores the normal development of prosocial skills and how diverse factors nested at different ecological levels possibly influence this development. Results of such examinations have direct implications for prevention and intervention research, as well as for policy development in these areas.

Bronfenbrenner and Morris (1998) discuss the ecology of developmental processes. According to the authors, the initial task of bioecological research is to develop hypotheses of sufficient exploratory power and accuracy to warrant further empirical testing. As Bronfenbrenner and Morris phrase it, this type of research design focuses on the discovery mode and not on a confirmatory process. The present report constitutes an exploratory analysis using data collected in the National Longitudinal Study of Children and Youth (NLSCY) to identify individual, family, school, and community level characteristics that predict children's concomitant and future prosocial skills as rated by parents and teachers. Cycle 1 information of seven year old children, their families, schools, and communities were used to examine the current status as well as the development of prosocial skills.

Four primary findings emerged. First, parents and teachers differed substantially on their judgments regarding children's prosocial skills. Second, multiple child, family, and community level variables contributed significantly to predicting parent ratings of children's prosocial skills. Third, change in prosocial skill ratings was limited and therefore poorly predicted by the included independent variables. Finally, contrary to the fan-spread hypothesis, individual differences in prosocial skills did not increase over time.

The development of particular scales, questions, and measures were not conducted by the current research team to answer specific hypotheses. Rather, a convenience sample of measures, derived from questions asked in the NLSCY were selected to represent child, family, community, and school level factors presumed to effect directly the development of prosocial skills. Further cross-validation of the dependent and independent measures as defined in this study is needed to verify their ability to capture important variability in their designated constructs. Since only direct effects were assessed, it is possible that some measures that did not have significant direct effect on the dependent variables may still have significant indirect effects via one or more of the other dependent variables limiting the theoretical significance of the findings.

In general, the results are consistent with an ecological model of child development and speak to the need of developing and testing specific hypotheses of mediating and moderating relationships between factors existing at different ecological levels.

1. Introduction

Children's social adjustment has been the focus of intense investigation in recent years. In part, this focus is a result of substantial research demonstrating strong links between early social competence (broadly defined), and later life adjustment and healthy development (e.g., Crick & Dodge, 1994; Parker & Asher, 1987; Rubin & Krasnor, 1986). Although there are numerous definitions of social competence circulating in the literature, there is an emerging consensus among most published definitions that social competence refers to effectiveness in interaction with others, which can be considered from both self and other perspectives (Rose-Krasnor, 1997; Segrin, 2000). A primary goal of developmental psychology is the promotion of understanding of the basic processes that underlie the emergence of fundamental human capabilities and to account for individual differences in forms of competence, health and well being. One of these processes is the promotion of social competence in children. Children with impairments in social functioning have been found to exhibit more maladaptive outcomes (e.g., aggression, depression), peer rejection, and overall poorer social adjustment later on in life (Crick, 1996; Eberly & Montemayor, 1998; Rys & Bear, 1997). One of the central features of social competence is the development and employment of prosocial skills. Prosocial skills are crucial in fostering positive and healthy social relationships. The close connection between prosocial skills and a wide variety of future developmental outcomes provides a compelling rationale to examine what factors are associated with positive development of prosocial skills. Results of such examinations can have direct implications for future prevention and intervention research, as well as policy development.

The majority of studies conducted in the area of social competence have employed social-cognitive approaches to understanding social adjustment (e.g., Dodge, 1986; Rubin & Krasnor, 1986; Rubin & Rose-Krasnor, 1992). The findings from these studies have provided researchers with greater insight into the types of social cognitions and mechanisms that lead to socially appropriate or inappropriate behaviour as judged by others. Prominent social competence theories have traditionally focused on breaking down social competence in functional ways – by zeroing in on adaptive behaviours, social skills, absence of maladaptive behaviours, and age appropriate social cognitions (e.g., Gresham & Reschly, 1988; Vaughn & Hogan, 1990). More recently, Rose-Krasnor (1997) has introduced a comprehensive model titled the social competence prism model as a theoretical framework for understanding social functioning. Specifically, social competence is defined as effectiveness in interaction, and effectiveness is based on the outcome of a system of behaviours that are geared to meet both short-term and long-term developmental needs and goals. Another level of conceptualization centres on indices of social competence such as the quality of relationships, group status and social self-efficacy. Finally, at the bottom level of the conceptualization prism are social, emotional and cognitive abilities and motivations. A similar model is Felner, Lease, and Phillips' (1990) quadripartite model of social competence, which accounts for many of the same components that Rose-Krasnor discusses in her model. In addition to addressing superordinate sets of skills needed in the attainment of social competence and positive mental health, this model features the significance of person-environment interactions for understanding social competence and its adaptive implications (DuBois & Felner, 1996). The acknowledgement of the person-environment variables is an important conceptual step. There has been increasing theoretical acceptance in developmental psychology and related fields of the ecological/transactional model of human development in which the individual is viewed as a self-righting mechanism that is engaged in active, ongoing adaptation to its environment. Furthermore, the interactions between the individual and his/her environment are viewed as both bi-directional and synergistic (Bronfenbrenner, 1979; Sameroff & Chandler, 1975; Sameroff & Fiese, 1990).

Adherence to an ecological model for the study of social competence requires us to consider the entire ecological system in which development occurs. The emphasis of the ecological systems approach is on the contexts within which development occurs and on the interrelations among the different contexts that contribute to a child's development (Bronfenbrenner 1979, 1989). Bronfenbrenner's ecological/transactional model serves as a guide here for understanding how multiple factors interact and influence children's development. According to such a perspective, a child's environment is seen as being comprised of several co-occurring levels. The influence of these levels on the development of a child can be either proximal or distal, and depending on how immediate the influence is, it may be more or less easily perceived and understood. More recently, Bronfenbrenner (1993) expanded his original theory and renamed it the bioecological system theory to reflect the development of individual children in particular environments, while considering both psychological and biological factors (Bronfenbrenner, 1995). Of particular interest in the present investigation is how the bioecological conceptualization of prosocial behaviours recognizes the ongoing interplay between distal and proximal factors in influencing the development of prosocial behaviours. The present study will examine both proximal and distal factors linked to the development of prosocial skills in children under the guidance of Bronfenbrenner's bioecological model.

1.1 A Breakdown of Bronfenbrenner's Bioecological Model

The application of an ecological/transactional model has been useful in clarifying how various experiences can exert negative impact on children's development (Cicchetti & Toth, 1997). As explained by Cicchetti and Toth, although all levels of an ecology exert important influences on development, characteristics associated with the more proximal, microsystemic environments have the most immediate effect on children's development, both positive and negative. Most research employing ecological models have been conducted with at-risk populations and have focused on the development of antisocial behaviours (Barnett, Manly, & Cicchetti, 1993; Dodge, Petit, & Bates, 1994; Howes & Cicchetti, 1993; Sameroff, Seifer, Baldwin, & Baldwin, 1993). In contrast, the present study explores the normal development of prosocial skills and how different factors nested at different ecological levels possibly influence this development. The use of a bioecological model in the present research dictates the types of variables whose relation to the development of prosocial skills in young children should be explored in ongoing and future research.

In Bronfenbrenner and Morris' (1998) book chapter, in which they discuss the ecology of developmental processes, they set out to explain the significant changes that have occurred in the conceptualization of the ecological model of human development. They term the still-evolving model as the bioecological model. The authors identify four main components to the bioecological model as being: 1) process, 2) person, 3) context, and 4) time variables. The research design in bioecological research is not one of confirmation (at least not initially), but rather one whose initial task is to develop hypotheses of sufficient exploratory power and accuracy to warrant further empirical testing. As Bronfenbrenner and Morris phrase it, this type of research design focuses on the discovery mode and not on a confirmatory process. Due to the overwhelming complexity of the many relationships involved in understanding optimal child development, many researchers and practitioners categorize subsystems of important factors on the basis of their proximity to the target child. To conduct truly bioecological research is a highly complex task. The purpose of the present study is to employ the bioecological model as a general overall framework in guiding exploratory research. It is our intent to examine a very specific aspect of prosocial development, that of prosocial skills in children. Thus, we intend to examine what individual, family, school, and community level characteristics are associated with children's prosocial behaviour during the elementary school years and changes in prosocial behaviour over time.

1.2 Social Competence: The Focus on Prosocial Behaviours

Social competence is one of the most frequently identified attributes of resilient children as well as a significant predictor of academic success and positive life outcomes (Mangham, McGrath, Reid, & Stewart, 1994; Kumpfer, 1999; World Health Organization, 1986). Measures of social competence usually assess qualities such as responsiveness, flexibility, empathy and caring, communication skills, a sense of humour, and other prosocial behaviours. Yet, the definition of social competence remains unclear. The reason for this confusion is in part due to the interchangeable use in the literature of terms such as social skills, life skills, self-esteem, interpersonal skills and social competence (DuBois & Felner, 1996; Rose-Krasnor, 1997; Segrin, 2000).

As briefly mentioned above, a model of social competence set forth by Felner et al. (1990) has provided some systematic conceptualization of social competence. In their model, Felner et al. propose that four super-ordinate sets of skills and abilities make up the key components of social competence. These skills are: 1) cognitive skills and abilities, 2) behavioural skills, 3) emotional competencies, and 4) motivational and expectancy sets. Prosocial skills are categorized under the behavioural skills core and are considered to be a sub-component of overall social functioning. Nonetheless, several studies have focused on subcomponents of social competence (e.g., prosocial skills, negotiation, affect regulation) as indicators of overall social functioning (Boivin, Hymel & Bukowski, 1995; Rose & Asher, 1999).

Prosocial behaviours have been defined as "actions that are intended to aid or benefit another person or groups of people without the actor's anticipation of external rewards" (Mussen & Eisenberg-Berg, 1977, pp. 3-4). In the current paper, prosocial skills are similarly defined as behaviours that demonstrate sensitivity to the needs of others, perspective taking, and willingness to engage in social interactions.

Prosocial skills are regarded as a necessary component of positive life and school experiences and subsequent success. One recent longitudinal study with 294 children (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000) found that a composite score of prosocial behaviour in the third grade (average age 8.5 years) as rated by self, peers, and teacher, significantly predicted both academic achievement (explaining 35% of the variance) and social preference (explaining 37% of the variance) five years latter when children were in grade 8. This 'prosocialness' score, which included cooperating, helping, sharing, and consoling behaviours, significantly predicted academic achievement five years later even after controlling for early academic achievement, whereas early academic achievement did not contribute significantly to later academic achievement after controlling for effects of early prosocialness. Interestingly, early aggression had no significant effect on later academic achievement and social preferences in this study.

Caprara et al. (2000) interpreted their findings as being consistent with the ecological perspective of social cognitive theories where children's intellectual development is strongly influenced by the social relations in which it is embedded and its interpersonal effects (p. 305). According to the authors, peers bond to prosocial children around social and scholastic activities and prosocialness fosters cognitive development by helping the child to enlist academic support and guidance from knowledgeable adults and classmates. "Through these and other social means, prosocial children create enduring school environments that are conducive to academic learning (p. 305)."

Several researchers have suggested that prosocial skills develop through a series of increasingly complex transactions between the individual and persons, objects, and symbols in his or her environment (e.g., Bandura, 1989). Such skills result in improved personal health and well being and allow individuals to become active participants in their society and communities. Children's active engagement in socially beneficial behaviours such as sharing, offering help, cooperating, showing concern for others, contributes to their own development and promotion of positive social relationships. At a broader level, knowledge regarding the relative influence of individual, family, and community level factors on the development of prosocial skills can inform policies geared at promoting these valued capacities. With greater knowledge, health and social well-being promotion efforts can target resources more strategically and efficiently. Understanding of multiple systems, and how they operate synergistically, can guide research, policy, and practice by identifying gaps in service areas and by drawing our attention to areas where new initiatives may be needed.

Although the effect of several individual, family, school, and community level factors on prosocial skills has been previously studied, no study to date has investigated them in combination. By examining the simultaneous contributions of multiple factors to predicting the development of prosocial skills, several important questions can be explored. These include: What factors are key to healthy development of prosocial skills?

What kinds of combinations of factors are particularly beneficial? Can family, school, or community level factors exert influence over and above individual level factors? Do combinations of factors operate individually or synergistically?

Addressing these questions can inform practice and policy and improve our ability to target the key factors at individual, family, school, and community levels. Consistent with the population health approach and ecological models, there are many opportunities to enhance capacities. Limitations on resources, however, demand that we find the most efficient ways to do so.

1.3 Individual Factors

It is apparent that research on prosocial behaviour of children has been greatly influenced by social learning theorists. There is considerable consensus that prosocial behaviour can be either negatively or positively influenced by exposure to appropriate or inappropriate models (e.g., parents, sibling, peers, teachers; Mussen & Eisenberg-Berg, 1977; Rushton, 1975; Sroufe, Cooper, & DeHart, 1996). Social learning theorists stress the importance of person-environment interactions. However, the determining influence of family, school, and peers on any individual is greatly linked to the uniqueness of that individual, or their individual characteristics. Thus, we address the crucial component of child individual variables in the scheme of prosocial skill development.

Genetic and other biological factors can have strong determining effects on healthy human development (e.g., Lytton, 2000). Temperament and attractiveness have also been associated with current and later outcomes (Caspi & Silva, 1995; Martin, Noyes, Wisenbaker, & Huttunen, 1999). In addition, child cognitive, social, and problem solving competence have all been related to current and later outcomes. Consistent with a transactional model the effect of these characteristics on development is mediated by the individual's environment. A goodness or poorness of fit between the child and his/her environment is often of major importance (Chess & Thomas; 1984, 1990).

Briefly defined, a good fit exists when the demands and expectations of the parents and other people important to the child's life are compatible with the child's temperament, abilities, and other characteristics. With such a fit, healthy development and resiliency can be expected. A poor fit, on the other hand, exists when demands and expectations are excessive and not compatible with the child's temperament, abilities, and other characteristics. With a poor or mismatched fit the child is likely to experience excessive stress and vulnerability, and healthy development is jeopardised (Chess & Thomas, in Tizard & Varma, 1992, p. 73).

Health Canada (1999) identifies individual capacities and coping skills as a key determinant of health. Individual capacities are the attitudes, knowledge, and skills (strategies, abilities) necessary for an individual to achieve desired outcomes and include cognitive, meta-cognitive, social, and emotional skills. Prosocial skills are considered a key component of social competence that demonstrates sensitivity, empathy, warmth, and perspective taking (Caprara et al., 2000). They can have significant impact on a person's health and well-being. Consistent with the argument that learning and development occur in reciprocal transactions, the ability to engage others (e.g., parents, teachers, peers) in positive interactive experiences is essential. Further, social acceptance is perhaps the single most important desired outcome of the elementary grades. Consequently, having the knowledge, attitude, and skills necessary for successfully interacting with peers may be considered one of the most significant capacities during the elementary years (Newcomb, Bukowski, & Pattee, 1993). In what follows, we will discuss several individual level factors that have been associated with the development of prosocial skills in previous research and whose importance is examined in this research.

Gender. When it comes to the prosocial behaviours of male and female children differences clearly exist. Boys have been found to use less mature and more hedonistic moral reasoning and to display more aggressive acting-out behaviours (Bear & Rys, 1994), whereas girls have been found to exhibit more prosocial behaviours in peer exchanges (Eberly & Montemayor, 1998; Rys & Bear, 1997). From the gender socialization perspective, it is argued that girls receive more positive reinforcement for their prosocial behaviours towards others. While boys may not necessarily be discouraged from engaging in prosocial behaviours, they may not be actively encouraged either (Beall, 1993). In recent years, more attention has been focused on the type of aggression exhibited by girls (Crick & Grotpeter, 1995; Crick, 1996). Because the type of aggression most often used by girls is in the form of relational aggression, it is more difficult to observe and note. The implication is that girls are not necessarily less aggressive than boys, but that they manifest their aggression differently. This qualitative difference in the type of aggression may be differentially linked to the promotion of prosocial skills and is included in our individual variable list.

TV viewing. The inclusion of television viewing as one of the predictor variables is due to the research suggesting that viewing may interfere with school achievement and social abilities. According to the displacement hypothesis, television viewing displaces more intellectually valuable activity, resulting in lowered levels of language and intellectual functioning and in fewer social interactions with adults (Huston, Wright, Marquis, & Green, 1999; Wright & Huston, 1995). The most well established link between television viewing and prosocial behaviours can only be explained through a host of family and demographic variables. Television viewing may interfere with social and academic achievement for more advantaged children, but there is some evidence that watching educational programs can actually help school readiness skills (Wright et al., 2001). Type of educational programming is important as television is more recently being commended for its potential as a prosocial teaching tool (Zimmerman, 1996). In sum, the amount of hours spent watching television has been associated with poorer social and academic outcomes; however, type of television content is emerging as an important factor in the television viewing equation. For the current study, we had information available only on the amount of watching television.

Peer relations. The quality of peer relations is an important barometer of overall social functioning. Peer acceptance has been found to be directly related to prosocial and emotional distress between perceived support from peers and prosocial behaviours (Wentzel, & McNamara, 1999). A lack of prosocial skills at the beginning of a school year predicted becoming more rejected for boys at the end of the school year and less accepted by peers during the course of the school year for girls (Crick, 1996). Teacher assessments of prosocial skills at the start of the school year predicted becoming less accepted and more rejected by peers for females only. Aggression and peer rejection in turn have been powerfully linked to later chronic antisocial behaviour (Coie, Lochman, Terry, & Hyman, 1992). Quality of peer relations is a clear marker for later social problems (Boivin et al., 1995).

Disabilities. Children with disabilities (physical, learning, mental, health) are at greater risk for experiencing social problems (Rinaldi, Brown, Ross, Heath, & Smith, 1996). In special populations the presence of prosocial skills can help by acting as a buffer or a protective factor. Nonetheless, children with disabilities are at a greater risk of experiencing impaired social relationships. Children with attention deficit hyperactivity disorder and children with learning disabilities have been found to experience high levels of social distress and poor levels of social competence (Merrell & Wolfe, 1998; Semrud-Clikeman & Schafer, 2000; Vaughn, Erlbaum, & Boardman, 2001).

Leisure Time. The participation in extracurricular or leisure activities has been found to be beneficial for children. There is evidence of transactional relations between after-school activities and child adjustment years later (Hupp & Reitman, 1999; Posner & Vandell, 1999). Through these activities (e.g., sports), children learn about games and social rules and how to interact with others as members of a team. Such activities provide opportunities not only to develop but also to practice prosocial skills.

In sum, the development of prosocial skills is rooted in the moral development and social learning theory research. The view that children help, cooperate, share, or are empathic towards others without the anticipation of external rewards promotes the development of positive social relations and fosters healthy social functioning (Eisenberg et al., 1999; Masten & Coatworth, 1998; Wemer, 1996). Those children who enter school with minimal or no social skills are at-risk of dropping out (Newcomb, Bukoswki, & Pattee, 1993). Multiple risk factors for behavioural and emotional difficulties exist and are linked to the development of prosocial skills in children.

1.4 Microsystem Factors

The ecological model's most basic unit of analysis is the microsystem, the immediate settings, including role relationships and activities that a child actually encounters. For young children microsystem may consist mostly of the family, but as they grow and are exposed to day care, preschool classes, and neighbourhood playmates, the system becomes more complex. Microsystems are dynamic contexts for development because of the bi-directional influences individuals impart on each other.

Many micro-level determinants of health affecting early child development have been investigated and proposed. Factors such as nutrition, shelter, hygiene, stimulation, support, attachment, and parenting style, have all been investigated and are correlated with latter outcomes. The relative quality and/or quantity of these factors can have either positive or negative effects on health.

Family. The family support hypothesis states that "family involvement in children's learning, and a positive supportive family atmosphere, will provide a critical source of education and social support that promotes children's development over time" (Reynolds, Mavrogenes, Bezruczko, & Hafemann, 1996, p. 1121). Moreover, Reynolds et al. suggest that positive developmental outcomes are most likely when there is a convergence of support structures in children's family and school environments that persist over time. This approach emphasizes not only the importance of the family as an immediate environment, but also how the family interacts and is supported by the larger community, including the school. Below we will differentiate between proximal and distal processes affecting the family and then examine the role of school and community. Naturally, these subsystems overlap significantly and their differentiation is partly arbitrary.

Family: Proximal processes. Proximal family processes refer to the transactions between the child and the immediate family environment that promote the child's competencies. Proximal family factors such as nutrition (Dunst, 1993), shelter (Dunst, 1993; Bradley et al., 1989), stimulation (Bernard, 1995; Bradley et al., 1989), support (Franz, McClelland, & Weinberger, 1991), attachment (Cohn, 1990; Easterbrooks & Lamb, 1979; Main, Kaplan, & Cassidy, 1985), and parenting style (Dekovic & Janssens, 1992; Pettit, Harrist, Bates, & Dodge, 1991) have all been shown to correlate with the child's later outcomes.

Parenting styles and parents' discipline practices have received substantial attention in the past decade. Numerous studies have concluded that authoritative parenting (firm, yet loving, with clear rules) is linked to more positive socialization of children (Donovan, Leavitt, & Walsh, 1990; Stormshak, Bierman, McMahon, & Lengua, 2000). Prosocial parenting behaviours are linked to both prosocial sibling relations (e.g., Volling & Belsky, 1992), positive marital quality (e.g., Belsky, Youngblade, Rovine, & Volling, 1991; Cummings, 1994), and positive peer relations (e.g., Gottman & Katz, 1989; Katz, Kramer, & Gottman, 1992).

On a very practical level, the amount of parent involvement in the child's education is related to children's educational achievement (Canadian Council on Social Development, 1997), and the specific language and cultural practices of the family, such as the amount of time spent reading together (Bus, van IJzendoorn, & Pellegrini, 1995) can have significant effects on the development of individual capacities. Similarly, family arrangement, constitution, and the amount of contact with extended family can affect child development through the kinds of interactive opportunities these arrangements provide (Hernandez, 1997).

Finally, two of the most important factors of children's social functioning are parents' psychiatric health and marital status. These two factors explain much of the variability in children's social and emotional competence (Goodman, Brogan, Lynch, & Fielding, 1993; Kershner & Cohen, 1992; Kochanska & Kuczynski, 1991; Miller, Cowan, Cowan, Hetherington, & Clingempeel, 1993). Many risk factors associated with behavioural and emotional disorders in children are linked to parental variables such as single parenthood, marital separation, young motherhood, poor family relations, and maternal mental health symptoms (Sameroff & Fiese, 2000; Williams, Anderson, McGee, & Silva, 1990). The presence of one or more of these risk factors compounds the risk for poor social functioning of children.

Family: Distal processes. Factors that affect the family's ability to provide support for the child as well the family's interaction with other environments of which the child is part of can be called distal processes that are expected to affect the child mostly indirectly. These include factors such as social support available for parents, access to community resources (McCubbin, McCubbin, & Thompson, 1993), income and employment, (Lefebvre & Merrigan, 1998), interpersonal relationships (Lindahl, 1998), parental mental health (Honig, 1986), and the family's ability to adjust to demands and stress (McCubbin et al., 1993).

School and Community. By age 6 to 7, children spend a large amount of their waking hours at school. Significant school experiences are imbedded both in structured learning and play activities as well as in unstructured relationships that children form with their peers. Early positive cycle of scholastic development and commitment frequently culminates in improved developmental outcomes in adolescence and beyond. This fan-out pattern of development, whereby initial advantages multiply over time has been termed "cognitive-advantage hypothesis" (e.g., Reynolds et al., 1996) or "Matthew effect" (Stanovich, 1986). More specifically, research indicates that positive early experiences can promote self-esteem, provide opportunities for success, and enable children to develop both social and problem solving skills (Rutter, 1987). Similarly, early academic failure and early school misbehaviour is predictive of later school failure, employability, and criminality (Tremblay, Masse, Perron, & LeBlanc, 1992), as well as of psychological morbidity in young adulthood (Power, Manor, & Fox, 1991).

School level factors associated with enriched learning opportunities include factors such as "higher levels of parental involvement; higher teacher expectations of student achievement; relevant curriculum content with emphasis on specific literacy skills; collaboration among administrators, teachers and students; a positive school climate where students feel safe and have a sense of belonging; integration of students from differing social class backgrounds and ability levels; and an emphasis on prevention over remediation" (Williams, 1999, cited in Health Canada, 1999, p. 69).

1.5 Mesosystem Factors

The mesosystem is the second of Bronfenbrenner's environmental layers, and refers to the interrelationships among different microsystem levels, such as home, school, and peer group settings. For instance, what happens at home influences what happens at school and in turn what happens in the school environment will likely influence family interactions. Specifically, parents' involvement within the school in conjunction with teachers' involvement with families represent mesosystem functioning. In addition, the community at large is also expected to effect distal family processes, and a family's ability to provide the necessary support for their child. In this study, we will also focus on factors such as physical safety, problems in the neighbourhood, and neighbours and examine their links to children's prosocial skills.

1.6 Exosystem Factors

The third environmental layer of the model is the exosystem. It consists of contexts that children are not a part of but which nevertheless influence their development. For example, decisions made by school boards and parents' workplaces do not include the child but nonetheless may influence and impact the child's development. A school board that sets educational policies that are relevant to the child is reflective of exosystem influences. For example, if a child has a learning difficulty, and the school board adopts a policy that states that children with exceptionalities are to be schooled in special classes, this may affect that child's academic and social progress. In a similar way, the policies set forth by parents' employers may also impact a child's development. In cases where parental leaves are not supported or flexible work hours are not an option, parents' availability to their child may be restricted and in turn influence a child's development (Fagan & Wise, 2001; Thomas & Grimes, 1995).

1.7 Macrosystem Factors

Finally, the outermost layer of the ecological model is the macrosystem. This layer is composed of the cultural milieu that is the source of influence most remote from the child's immediate experience but nevertheless impacts the child through the attitudes, practices, and convictions shared throughout society at large. At the most distant or macro-level are variables related to the relative wealth of the nation or region and how that wealth is distributed among the population. Although these variables are considered more distant, their effects are perhaps more profound. At both an individual and population level of analysis, perhaps the best environmental predictor of health and developmental outcomes is some measure of relative affluence, or socio-economic status (SES).

According to the National Forum on Health: *Determinants of Health Working Group Synthesis Report* (1997), child poverty, unemployment, youth underemployment, involuntary retirement, labour force restructuring, cuts in social programs, decreases in real income, income inequities, the disintegration of communities as we once knew them, single parenthood, and the ever-increasing pressures of work on families are all factors that determine population health. The more equitable a society, the more widely shared are feelings of self-esteem and control, the more empowered are its members, and the better is overall health status.

1.8 The Present Study

The purpose of the present study is to examine what individual, family, school, and community level characteristics uniquely predict both children's prosocial skills as rated by parents and teachers as well as the future development of these skills. More specifically, we will use data from National Longitudinal Survey of Children and Youth (NLSCY) to first examine the Cycle 1 status of prosocial skills of those children who were 7 years of age when Cycle 1 data was collected, and variables from different levels can account for individual differences in prosocial skills. We will then examine further how their prosocial skills develop over the next four years covered by Cycle 2 and Cycle 3 of NLSCY data collection. Moreover, we will examine which child, family, school, and community level variables collected at Cycle 1 can account for individual differences in the development of prosocial skills.

The theoretical framework advanced in this study is grounded in developmental psychology but borrows heavily from research in the areas of social competence, resiliency, and population health. Social competence is of specific interest as it has been shown to be an excellent predictor of children's long-term success in a variety of contexts. Moreover, specific aspects of social competence, particularly prosocial skills (or lack of), have successfully been used to predict overall social competence in children (e.g., Crick & Dodge, 1994; Rose & Asher, 1999). The inclusion of different levels of predictor variables for exploratory analyses is guided by transactional-ecological approach (see Bronfenbrenner, 1997; Sameroff & Fiese, 1990), and the inclusion of child and family level factors is guided by Felner et al.'s (1990) quadripartite model of social competence.

From the child's perspective, different aspects of social competence of which cognitive and behavioural components are a part of warrant investigation. Internalizing and externalizing problems demonstrated by children at six years of age are predicted to affect prosocial development. We therefore hypothesize that elevated internalizing or externalizing behaviour ratings should have a negative effect on the growth of prosocial skills. Next, espousing an ecological model approach in understanding the development and continuance of prosocial skills necessitates that children's skills be assessed across a variety of contexts. Therefore, we will use both parents' and teachers' ratings of children's prosocial skills.

Developmental research has demonstrated that individual, parental (e.g., parenting practices, school involvement), and school/community factors (support, resources available) contribute to positive development (Thomas & Grimes, 1995). There is also growing recognition within the field of resiliency research that risk factors typically co-occur and that multiple risk factors are particularly hazardous because their effects are synergistic rather than simply additive (Bartko & Sameroff, 1995; Dunst, 1993; Dunst & Trevette, 1990; Pellegrini, 1990). Ecological theories of development, therefore, can be called upon to test particular hypotheses regarding the amount of unique and shared variance these individual and combined factors contribute to the maintenance of prosocial skills over time. Further, such factors may operate differently at different times during development. Family Support (Pathway) arguments, suggest that cognitive and academic (and consequently social) gains would not be expected to continue into grade school if such schools were of poor quality, or if family circumstances, and parental involvement did not support earlier gains (Guralnik, 1993; Reynolds et al., 1996; Yoshikawa 1995). Based on this theoretical framework it becomes reasonable to assume that factors such as parental involvement, family functioning, and parenting style will contribute uniquely both to current ratings of prosocial skills (i.e., those at time 1 or at first year of elementary school), as well as to the future development of these skills.

2. Method

2.1 The Analysis Plan

The data contains prosocial skill ratings from both the parents and the teachers of participating children as well as independent measures reported by parents and teachers. Parent and teacher ratings of prosocial skills were weakly correlated (N=400, r=.22) and factor analysis of the rated items identified two clear factors with parent ratings loading on one factor (parent rated prosocial skills) and teacher ratings on the other factor (teacher rated prosocial skills). These results indicated that parent and teacher ratings should not be combined to form a single indicator of children's prosocial skills. The separation of prosocial skills as rated by parents and teachers also adds conceptual clarity as children have been noted to conduct themselves differently in different environments (Dunn, 2001; Eisenberg et al., 1999; Warden, Christie, Kerr, & Low, 1996). Consequently, separate analyses were conducted for parent ratings and teacher ratings.

Parent ratings of prosocial skills and data on parent reported independent variables were available for a much larger number of children than teacher ratings or teacher reported independent variables (see next section for details). To obtain maximum possible sample size for all the analyses, four different (but nested) samples of students were used. The first sample, called Parent Sample 1, included only those independent variables that were reported by the parent and had the largest sample size. This model is used to make inferences about relationships between parent rated prosocial skills and parent reported independent (predictor) variables.

The second sample, called Parent Sample 2, is used for models predicting parent reported prosocial skills from teacher reported independent variables. This sample is a subset of the Parent Sample 1 with about half of the students included (see next section for details). Parent reported predictor variables are included in the models to control for their effect, but models with Parent Sample 2 are used mainly to examine how well teacher reported independent variables predict parent reported social skills.

The third sample, called Teacher Sample 1 and also a subset of Parent Sample 1 with about half of the students included, is used to predict teacher rated prosocial skill development from parent reported independent variables. Finally, the fourth sample, Teacher Sample 2 (subset of Teacher Sample 1), is used to predict teacher rated prosocial skills from teacher reported independent variables (after controlling for the effect of parent reported independent variables). This last sample was clearly smaller and included only about fourth of the Parent Sample 1 students.

2.2 Participants

Participants in the present investigation include those children who were 7 years of age during Cycle 1 of National Longitudinal Survey of Children and Youth (NLSCY) data collection. Participants also had data available on included independent variables from

Cycle 1 and a minimum of two complete data points on the dependent variable from Cycles 1, 2 and 3 for growth curve analyses. Consequently, 847 children who were seven years of age during Cycle 1 were included in the Parent Sample 1. These children were used in the analyses that incorporated only parent reported independent variables to predict the development of parent rated prosocial behaviour at home. Parent Sample 2 included 364 children and both parent and teacher reported independent variables to predict the development of parent rated prosocial behaviour. Teacher Sample 1 consisted of 456 children who had information available on parent reported independent variables as well as teacher ratings of prosocial behaviour. Finally, Teacher Sample 2 consisted of 287 children for whom complete data was available on both parent and teacher reported independent variables and teacher rated prosocial skills.

Chi-square analyses and t tests were performed comparing those 7-year-old children at Cycle 1 of NLSCY that were included in a particular run to those 7-year-old children at Cycle 1 that were not included due to missing data on dependent variable or on the independent variables used for the specific analyses. Results from these analyses are reported in Appendix A and suggest that our sample may not be entirely representative of all Canadian 7-year-old children. More specifically, when compared to children who did not have all data available and were therefore excluded from analyses, children included in our samples appeared to do better in school, more frequently come from homes outside of large urban centres and with more financial resources and fewer moves, and have two parents who use health professionals and services less frequently and read with their child more frequently, with mother being the person most knowledgeable about the child.

Weighting of the data. In all HLM analyses different sample weights were used as recommended in the NLSCY guidelines. Using Parent Sample 1 (parent predictors of parent rated prosocial skills) as an example, Cycle 1 parent rated prosocial skills scores were weighted using Cycle 1 cross-sectional weights for the sub-sample with complete parent ratings (N=847). This sample weight was created by calculating the average cross-sectional weight for that sample and then dividing each person's cross sectional weight by that average. Cycle 2 parent rated prosocial skills scores were weighted using the Cycle 2 longitudinal weights. Again the averages of the longitudinal weights were calculated for the sample with complete Cycle 2 parent ratings of children's prosocial skills. Cycle 2 longitudinal weights were then divided by this average for each child. A similar procedure was followed with Cycle 3 data.

All means, standard deviations, and comparisons were also computed on weighted data and the same sample weights for 7-year-olds were used in all analyses. These weights were obtained by first calculating the average Cycle 1 population weights for all 7-year-olds and then dividing each child's population weight by the calculated average. This transformation creates an average sample weight of 1 while maintaining the relative sampling characteristics of the population weights. However, SPSS 10.1 used to manage the data base and report means has been reported to have difficulty with their weighting procedure. The difficulty is that weights are rounded inaccurately which leads to small changes in sample sizes. As a consequence, weighted sample sizes are slightly different than the actual numbers used. This is only problematic in the tables A1, A2, A3, A4, A5, and A6 presented in Appendix A. Actual and weighted Ns are therefore reported as a note so as to limit confusion. Given the requirement of having no Level 1 missing data for individuals included in the HLM analyses, sample sizes for the included participants remain constant across all of the comparisons within the four different samples (Parent Sample 1, Parent Sample 2, Teacher Sample 1, and Teacher Sample 2). Sample sizes for the comparison groups (those 7-year-olds who were not included in the analyses) differ on the basis of what data was missing across items and composite scores. It should be noted that sample sizes for the comparison groups therefore reflect the extent to which participants in the NLSCY survey answered particular questions or items.

2.3 Variables

Detailed descriptions of the variables are available on NLSCY reports. We will provide here only a short description of the dependent and independent variables used in current analyses.

2.3.1 Dependent Variables

Two dependent variables were examined in the present investigation: Prosocial skills as rated by parents and prosocial skills as rated by teachers. Parents' understanding of their children's prosocial skills was measured in each cycle of NLSCY data collection by several identical items in the parent questionnaires. Questions included in the Prosocial behaviour scale included questions ABECQ6A, ABECQ6H, ABECQ6M, ABECQ6GG, and ABECQ6OO, from the Ontario Child Health Study (OCHS) and ABECQ6D, ABECQ6U, ABECQ6BB and ABECQ6SS from the Montreal Longitudinal Survey; the last four items were from a scale developed by K. Weir and G. Duveen. This scale was considered to have adequate internal consistency with a Cronbach's Alpha coefficient of 0.816. These items are listed in Table 1.

Teacher's understanding of the child's prosocial skills was measured in each cycle of data collection by several identical items in the teacher questionnaires (see Table 1).

For all questions the following instructions were provided:

Using the answers "never or not true, sometimes or somewhat true, or often or very true", how often would you say that ....

1. NEVER OR NOT TRUE
2. SOMETIMES OR SOMEWHAT TRUE
3. OFTEN OR VERY TRUE

Table 1
Items Measuring Prosocial Skills on Parent and Teacher Questionnaires

Rater	Items
Parent	Shows sympathy? Will help someone who has been hurt? Volunteers to help clear up a mess? Tries to stop a quarrel or dispute? Offers to help other children with task? Comforts a child who is crying or upset? Helps pick up objects for another child? Will invite bystanders to join a game? Helps other children who are sick? Praises the work of less able children?
Teacher	Student shows sympathy for others? Student helps someone who is hurt? Student cleans up someone else's mess? Student tries to break up disputes? Student helps other children learn? Student comforts child who is crying? Student helps pick up things? Student invites other to join in a game? Student helps children who are sick? Student praises less able children?

2.3.2 Independent Variables

Originally, independent variables were to be hierarchically nested within child, family, and school/community levels. Upon inspection of the data it was determined that too few 7-year-old children during Cycle 1 attended the same schools to account for shared variance on the dependent variable. For instance, out of 553 children that had teacher ratings of children's prosocial behaviour for at least two of the three cycles, there were over 400 schools that had only a single child, 56 schools had two 7-year-old children involved in the NLSCY, and less than 10 schools had 3 children included in the NLSCY. The frequency of multiple children attending the same school was too low to nest children within schools. Nesting children within communities could not be performed due to questionable census information. Reported postal codes from the primary data file did not consistently or reasonably match the provincial designations of the enumeration area (EA), census track (CT), and census subdivision (CSD) information from the EA data file that was created later and matched with children's unique identification numbers. Considerations for nesting children within communities are twofold: First, there must be adequate clustering of children within geographic regions (communities) in order that there are enough children to adequately reflect conditions in that community, and second, there needs to be reasonable homogeneity within the geographic region to assume that factors that operate at this level operate similarly on all members that live within it. The only community level variable that seemed to meet both conditions was the census subdivision codes. Statistics Canada has been informed of our concerns and new corrected EA files are expected in the new year. When this information becomes available we will incorporate this new level in future analyses.

In the present investigation, all independent variables are considered nested at the child level. However, in order to maintain our initial focus on multiple developmental influences operating at different ecological levels, independent variables were clustered into child, family, community, and school level clusters. The specific items and composites were organized on the basis of the structure provided below. Table 2 lists all the variables included in all HLM analyses. The same predictor variables were used to predict both parent and teacher reported prosocial skills development. Italicized variables are teacher reported independent variables. Variables printed in capital letters are aggregate or computed scores, and variables printed in lower case are single item questions drawn directly from the NLSCY survey. Finally, with the exception of categorical variables, all independent variables were standardized and centred around their grand means. Variables that begin with the prefix C represent categorical variable.

Table 2
Different Clusters of Independent Variables

Cluster/Variable Name	**Variable Description**
1. Child Level Variables	
C- Child Gender	**0=Female, 1=Male**
1.1 *Physical development and health*	
Health	Would you say child's health is: (1-excellent , ..., 5-poor)
Health history	How often has child been in good health (1-all the time, ..., 5-never)
1.2 *Disability status*	
C- Physical Condition	PHYSICAL HANDICAPPING CONDITION (0=No, 1=Yes)
C- Mental Condition	MENTAL HANDICAPPING CONDITION (0=No, 1=Yes)
C- Special education	Child receives special education (0=No, 1=Yes)
1.3 *Cognitive, language, and overall academic status*	
Looks forward to school	Child looks forward to going to school (1-almost never, ..., 5-almost always)
School performance	Child doing overall (1-Near the top of the class, ..., 5-Near the bottom)
Academic Skills	STUDENTS ACADEMIC SKILLS (max=30, low scores better work habits)
1.4 *Social skills and relationships*	
# of close friends	Number of close friends child has
Gets along with others	Child got along with other kids (1-very well,..., 5-not well at all)
Gets along with teacher	At school, child got along with teacher (1-very well,..., 5-not well at all)
Gets along with parent	Child got along with parent (1-very well,..., 5-not well at all)
1.5 *Emotional Regulation*	
Affect	Is child usually: (1- happy,..., 5- so unhappy that life is not worthwhile)
Hyperactivity	HYPERACTIVITY - INATTENTION (higher score, more inattention)
Emotional disorder	EMOTIONAL DISORDER-ANXIETY (higher score, more problems)
Aggression	AGGRESSION SCORE (higher score, more aggression)
Indirect aggression	INDIRECT AGGRESSION SCORE (higher score, more aggression)
Property offence	PROPERTY OFFENCES SCORE (higher score, more offences)

Table 2 (continued)
Different Clusters of Independent Variables

1.6 *Activities*	
C- Junior Kindergarten	Did child attend junior kindergarten? (0=No, 1=Yes)
Recreational Activities	MAXIMUM LEVEL OF INVOLVEMENT IN ACTIVITIES (1- most days, …, 5- almost never)
Video Games	How often does child play video games (1-most days ,…, 5- almost never)
TV	Hours per day child watches TV
Does things with friends	Child does things with friends (1-never ,…, 5: 6-7 days a week)
1.7 *Absenteeism*	
School days missed	Number of days away from school
2. Family Level Variables	
2.1 *Parent Information*	
PMK Age	Age of PMK
C- PMK Gender	Gender of PMK (0=Female, 1=Male)
PMK Years of education	Years of education for PMK (see note on next page)
2.2 *Socio-Economic Status*	
Ratio h/h LICO	Ratio of h/h income to low-income cut-off (low scores=below LICO)
SES	Standardized socio-economic status score (low scores=low status)
2.3 *Household composition*	
C- Single Parent	Single parent status (0=2 parents, 1=single parent)
# Siblings	Number of siblings in the household
Time in all care arrangements	Number of hours in all care arrangements
2.4 *Housing conditions*	
Crowded home	Crowded living conditions (#persons/#bed rooms)
C-City Size	Urban-Rural code (higher number=smaller city)
Changed School	How many times changed schools
Moves	How many times moved
2.5 *Adult health*	
PMK Health	In general, PMK's health is: (1- excellent,…, 5- poor)
PMK Depression	PMK DEPRESSION SCORE (higher scores=greater depression)
2.6 *Available social support*	
Social Support	SOCIAL SUPPORT SCORE (higher scores=more support)
Health Utility Index	Use of health professionals and services (higher scores=greater)
2.7 *Parenting style*	
Positive Interactions	POSITIVE INTERACTION (higher scores=more positive interactions)
Ineffective Parenting	INEFFECTIVE PARENTING (higher scores=more ineffective)
Consistency	CONSISTENCY (higher scores=greater consistency)
Punitive Discipline	PUNITIVE (or AVERSIVE) (higher scores=more aversive)
2.8 *Family functioning*	
Family Functioning	FAMILY FUNCTIONING SCORE (higher scores=poorer functioning)
2.9 *Parental supervision and support of schooling*	
Read together	How often do you read with child (1- rarely, 7- many times each day)
Parent School Involvement	Extent of parents involvement in school (low scores=greater involvement)
Support for schooling	How well child is prepared for school (high scores=more problems with support)
PMK Hours worked	Number of hours worked per week

Table 2 (continued)
Different Clusters of Independent Variables

3. Community Variables	
Neighbourhood Safety	NEIGHBOURHOOD SAFETY SCORE (high scores=more safe)
Neighbours	NEIGHBOURS SCORE (high scores=greater cohesiveness)
Neighbourhood Problems	NEIGHBOURHOOD PROBLEMS SCORE (high scores=more problems)
4. School Level Variables	
School Climate	Parent rating of school climate (high scores=better climate)
Academic Expectations	TEACHER EXPECTATIONS OF STUDENT PERFORMANCE (high scores=greater emphasis on academic achievement)
Participative Environment	PARTICIPATIVE SCHOOL ENVIRONMENT (high scores=more participative environment)
Supportive Environment	SUPPORTIVE SCHOOL ENVIRONMENT (high scores=greater support)
Disciplinary Climate	DISCIPLINARY CLIMATE AT SCHOOL (high scores=stronger disciplinary climate)

Note: PMK=Person Most Knowledgeable of the child, usually the parent who responded.

3. *Results*

3.1 Descriptives

Four each of the four different samples, Cycle 1 raw score means and standard deviations of all continuous independent and dependent variables are reported below in Tables 3 (Parent samples) and 4 (Teacher samples). For dichotomous and categorical independent variables Table 5 (Parent and Teacher samples) presents the frequencies across categories. Given that children included in the Parent Sample 2, Teacher Sample 1, and Teacher Sample 2 are subsamples of Parent Sample 1, the descriptive information is very similar for all samples. Reported means and standard deviations are weighted by separate subsample weights (see above for details). *Italicized* independent variables are teacher reported and are only available for Parent Sample 2 and Teacher Sample 2.

Table 3
Means and Standard Deviations for the two Parent Samples

Cluster/Variable Name	**Parent Sample 1 N=847**		**Parent Sample 2 N=364**	
	Mean	**SD**	**Mean**	**SD**
Prosocial Skills	**12.51**	**3.74**	**12.85**	**3.64**
1. Child Level Variables				
1.1 Physical development and health				
Health	1.50	.70	1.51	.75
Health history	1.12	.41	1.12	.39
1.2 Cognitive, language, and overall academic status				
Looks forward to school	4.45	.90	4.52	.78
School performance	1.83	.88	1.73	.89
Academic Skills			23.72	4.58
1.3 Social skills and relationships				
# of close friends	3.41	.89	3.43	.86
Gets along with others	1.50	.72	1.52	.71
Gets along with teacher	1.33	.67	1.32	.68
Gets along with parent	1.53	.70	1.59	.78
1.4 Emotional Regulation				
Affect	1.14	.36	1.12	.35
Hyperactivity	4.43	3.59	4.51	3.81
Emotional disorder	2.59	2.62	2.42	2.48
Aggression	1.35	1.87	1.34	1.85
Indirect aggression	1.27	1.70	1.21	1.73
Property offence	.75	1.17	.68	1.26
1.5 Activities				
Recreational Activities	2.06	1.02	2.01	1.00
Video Games	2.56	1.36	2.42	1.33
TV	1.76	.89	1.77	.93
Does things with friends	3.72	1.12	3.69	1.15

Table 3 (continued)
Means and Standard Deviations for the two Parent Samples

1.6 *Absenteeism*				
School days missed	3.00	3.50	3.18	3.22
2. Family Level Variables				
2.1 *Parent Information*				
PMK Age	35.31	5.01	35.55	5.09
PMK Years of education	12.36	2.24	12.48	2.00
2.2 *Socio-Economic Status*				
Ratio h/h LICO	1994.45	1404.05	2232.06	1470.85
SES	-.06	.77	.01	.70
2.3 *Household composition*				
# of Siblings	1.38	1.00	1.40	1.02
Time in all care arrangements	5.14	11.54	4.32	11.73
Cluster/Variable Name	Mean	SD	Mean	SD
2.4 *Housing conditions*				
Crowded home	1.39	.43	1.35	.36
Changed School	.29	.69	.31	.71
Moves	1.46	1.75	1.37	1.84
2.5 *Adult health*				
PMK Health	1.95	.91	1.98	.90
Depression	4.94	5.87	4.60	5.42
2.6 *Available social support*				
Social Support	14.47	2.88	14.48	2.88
Health Utility Index	.97	.06	.97	.06
2.7 *Parenting style*				
Positive Interactions	12.70	2.73	12.84	2.71
Ineffective Parenting	8.75	3.642	8.80	3.71
Consistency	15.23	3.45	15.51	3.27
Punitive Discipline	8.72	2.07	8.91	1.94
2.8 *Family functioning*				
Family Functioning	7.86	5.27	7.79	5.37
2.9 *Parental supervision and support of schooling*				
Read together	6.49	1.11	6.55	.95
Parent School Involvement			2.68	.53
Support for schooling			2.44	2.58
PMK Hours worked	21.81	19.21	23.51	18.18
3. Community Variables				
Neighbourhood Safety	4.30	1.35	4.33	1.20
Neighbours	10.65	2.82	11.09	2.48
Neighbourhood Problems	1.27	1.55	1.20	1.59
4. School Level Variables				
School Climate	6.14	1.78	6.12	1.72
Academic Expectations			12.67	2.00
Participative Environment			19.77	4.76
Supportive Environment			14.29	4.39
Disciplinary Climate			11.30	3.00

Note: PMK=Person Most Knowledgeable of the child, usually the parent who responded.

Table 4
Means and Standard Deviations for the two Teacher Samples

Cluster/ Variable Name	Teacher Sample 1 N=456		Teacher Sample 2 N=287	
	Mean	**SD**	**Mean**	**SD**
Prosocial Skills	**12.83**	**3.54**	**12.84**	**3.75**
1. Child Level Variables				
1.1 Physical development and health				
Health	1.52	.73	1.54	.76
Health history	1.12	.40	1.15	.43
1.2 Cognitive, language, and overall academic status				
Looks forward to school	4.51	.83	4.55	.74
School performance	1.84	.92	1.79	.92
Academic Skills			24.30	4.02
1.3 Social skills and relationships				
# of close friends	3.41	.84	3.43	.87
Gets along with others	1.52	.68	1.48	.67
Gets along with teacher	1.36	.69	1.37	.73
Gets along with parent	1.52	.71	1.51	.74
1.4 Emotional Regulation				
Affect	1.09	.30	1.07	.28
Hyperactivity	4.39	3.64	4.15	3.60
Emotional disorder	2.47	2.46	2.35	2.29
Aggression	1.36	1.78	1.27	1.75
Indirect aggression	1.33	1.68	1.22	1.64
Property offence	.66	1.15	.65	1.21
1.5 Activities				
Recreational Activities	2.06	1.01	2.06	1.04
Video Games	2.58	1.38	2.55	1.34
TV	1.69	.83	1.70	.91
Does things with friends	3.64	1.12	3.65	1.12
1.6 Absenteeism				
School days missed	2.96	3.34	3.16	3.22
2. Family Level Variables				
2.1 Parent Information				
PMK Age	35.40	5.28	35.86	5.36
PMK Years of education	12.60	2.15	12.63	2.11
2.2 Socio-Economic Status				
Ratio h/h LICO	2131.33	1239.79	2195.58	1267.57
SES	.015	.77	.03	.75
2.3 Household composition				
# of Siblings	1.40	1.04	1.50	1.09
Time in all care arrangements	4.82	11.39	4.31	11.62
2.4 Housing conditions				
Crowded home	1.34	.37	1.34	.36
Changed School	.34	.73	.29	.66
Moves	1.45	1.70	1.45	1.83

Table 4 (continued)
Means and Standard Deviations for the two Teacher Samples

2.5 *Adult health*				
PMK Health	1.96	.92	1.99	.95
Depression	4.29	5.21	4.48	5.45
2.6 *Available social support*				
Social Support	14.60	2.82	14.58	2.85
Health Utility Index	.97	.05	.97	.06
2.7 *Parenting style*	12.66	2.82	12.88	2.85
Positive Interactions	8.74	3.60	8.57	3.57
Ineffective Parenting	15.27	3.10	15.40	3.31
Consistency	8.99	1.90	9.05	2.02
Punitive Discipline	12.66	2.82	12.88	2.85
2.8 *Family functioning*				
Family Functioning	7.70	4.87	7.51	5.11
2.9 *Parental supervision and support of schooling*				
Read together	6.58	1.02	6.57	0.98
Parent School Involvement			2.69	.51
Engagement with school			2.27	2.39
PMK Hours worked	24.70	19.03	25.16	18.06
3. Community Variables				
Neighbourhood Safety	4.31	1.24	4.34	1.18
Neighbours	10.86	2.70	11.27	2.53
Neighbourhood Problems	1.33	1.57	1.27	1.61
4. School Level Variables				
School Climate	6.22	1.76	5.99	1.72
Academic Expectations			12.68	2.03
Participative Environment			19.35	4.83
Supportive Environment			14.09	4.38
Disciplinary Climate			11.38	2.90

Note: PMK=Person Most Knowledgeable of the child, usually the parent who responded.

Table 5

Cross Tabulation of Categorical Variables for Parent and Teacher Samples

	Parent Sample 1		Parent Sample 2		Teacher Sample 1		Teacher Sample 2	
Gender								
Male	433	(51.8%)	186	(55.7%)	217	(54.8%)	163	(56.8%)
Female	403	(48.2%)	148	(44.3%)	179	(45.2%)	124	(43.2%)
Physical condition								
No	612	(73.2%)	259	(77.5%)	278	(70.4%)	185	(76.4%)
Yes	224	(26.8%)	75	(22.5%)	117	(29.6%)	57	(23.6%)
Mental condition								
No	795	(95.1%)	313	(93.7%)	374	(94.7%)	225	(93.0%)
Yes	41	(4.9%)	21	(6.3%)	21	(5.3%)	17	(7%)
Junior Kindergarten								
No	394	(47.1%)	126	(37.7%)	188	(47.5%)	104	(43.0%)
Yes	442	(52.9%)	208	(62.3%)	208	(52.5%)	138	(57.0%)
Special Education								
No	783	(93.6%)	310	(92.8%)	369	(93.4%)	222	(91.7%)
Yes	53	(6.4%)	24	(7.2%)	26	(6.6%)	20	(8.3%)
PMK Gender								
Female	777	(92.9%)	310	(92.8%)	375	(94.9%)	227	(93.8%)
Male	59	(7.1%)	24	(7.2%)	20	(5.1%)	15	(6.2%)
Single Parent								
2 Parents	735	(87.8%)	300	(89.8%)	346	(87.4%)	217	(89.3%)
1 Parent	101	(12.1%)	33	(9.9%)	49	(12.4%)	25	(10.3%)
City Size								
500,000 and up	372	(44.5%)	125	(37.4%)	134	(33.8%)	79	(32.8%)
100,000-500,000	140	(16.7%)	58	(17.4%)	78	(19.7%)	50	(20.7%)
30,000-100,000	68	(8.1%)	31	(9.3%)	40	(10.1%)	22	(9.1%)
15,000-30,000	32	(3.8%)	21	(6.3%)	21	(5.3%)	18	(7.5%)
Less than 15,000	63	(7.5%)	31	(9.3%)	39	(9.8%)	23	(9.5%)
Rural area	161	(19.3%)	68	(20.4%)	84	(21.2%)	49	(20.3%)

Note: PMK=Person Most Knowledgeable of the child, usually the parent who responded.
The actual unweighted sample size for Parent Sample1 in all analyses is 847.
The actual unweighted sample size for Parent Sample2 in all analyses is 364.
The actual unweighted sample size for Teacher Sample1 in all analyses is 456.
The actual unweighted sample size for Teacher Sample2 in all analyses is 287.

3.2 Hierarchical Linear Models

3.2.1 A Brief Introduction to Hierarchical Linear Models

In the last 10 years, researchers have developed hierarchical linear models (HLM) that can take into account the hierarchical structure in the data (e.g., students nested within schools, repeated measures nested within individual students). While these models are also known as multilevel models (e.g., Snijders & Bosker, 1999) or hierarchical linear regression models, they should not be confused with fixed-order regression models, which are also sometimes called hierarchical regression models. These latter models are hierarchical only in their determination of the order of entry for independent variables, whereas HLM models are hierarchical in that they simultaneously estimate the effects of variables at different levels. Consider an example where students come from different schools. The idea underlying an HLM model in such a case is that on the first level of analysis, a separate regression model is fitted for each school. These regression models yield a mean score for each school, with possible adjustments for different student level variables, such as their background. They can also produce measures of equality, such as the differential between males and females in their performance, or the relationship between achievement and social class. HLM model can then use the individual school estimates (e.g., adjusted mean scores or measures of equality) as dependent measures on a second level model that attempts to explain variation among schools with various measures of school characteristics, such as class size, mean SES etc.

HLM models are extremely flexible in accounting for data hierarchies. Longitudinal data contain repeated measures from different students (each student has several scores across time). The data hierarchy in which repeated measures are nested within individual students constitutes the HLM model often referred to as the "growth model". Our study employed HLM growth modeling approach with each student having three different prosocial behaviour scores, one for each three time points. We adopted a two-level HLM growth model with repeated measures (level 1) nested within individual students (level 2) to analyze the development of students' prosocial development. At level 1, then, each participant's development is represented by an individual growth trajectory that depends on a set of growth parameters. In the current study, three data points allows us to test level 1 models with two parameters – the intercept and the linear growth coefficient. Conceptually, intercept represents the mean performance level at Time 0 and variable coding of time can be used to examine performance level at different time points. In this report, we will use Cycle 1 as Time 0. The linear growth coefficient represents the linear growth rate between different measurement points and thus captures changes in prosocial skills over time. The two growth parameters become then the outcome variables in level 2, where they are predicted from theoretically relevant child, family, community, and school characteristics. Level 2 thus captures the between-individual variability in different growth components and examines what factors can account for this variability.

The advantage of the HLM growth model over the traditional repeated measures model is evident when data have students nested within schools. The HLM growth model can easily examine school effects on student initial status and rate of growth. In our study, however, we did not have clustered school or community data with most schools and communities contributing only one student to the sample. What are the advantages of the HLM growth model in this situation? Bryk and Raudenbush (1992, p. 133-134) list 5 key advantages:

- First, the [HLM] model explicitly represents the individual growth at Level 1. In contrast, in an MRM [multivariate repeated measures] model individual variation in growth is not directly modeled but rather appears in the interaction of repeated occasions by subjects. Conceptually, the hierarchical model is more in the spirit of the growth-curve analysis.
- Second, the hierarchical model is generally more flexible in terms of its data requirements because the repeated observations are viewed as nested within the person rather than as the

same fixed set for all persons as in MRM. For example, missing one data point will allow inclusion of a participant into a HLM model but into a MRM model without imputation.

- Third, the hierarchical model permits flexible specification of the covariance structure among the repeated observations and provides methods for direct hypothesis testing about possible determinants of this structure.
- Fourth, when the restrictive data requirements and assumptions of MRM apply, a hierarchical analysis produces the same point estimates for the fixed effects as in an MRM analysis.
- Fifth, the formulation of growth models via the hierarchical linear approach leads naturally to the study of organizational effects on growth (note that this point has been illustrated earlier).

Given these advantages, we decided to adopt the HLM growth model for data analysis in the present study. The first step in the analysis process is to examine whether there is sufficient variability to be modeled among students at the second level. The first level model (within-student model) functions as a measurement model which specifies initial status and rate of growth. Level 1 variance (within-student variance) is not of interest to our study. Estimates of variability on Level 2 can be obtained in a straight forward manner by fitting a fully unconditional model on the data. This is a model that includes no predictors at the second level (equivalent to one-way ANOVA with random effects). Fitting a fully unconditional model in Parent Sample 1 data indicated that 50.02% of the total variance was on Level 2, or between individuals. The estimate for Level 2 variance component was 6.43 with a standard deviation of 2.54 and reliability estimate of 0.63. Similar analyses with Parent Sample 2, Teacher Sample 1 and Teacher Sample 2 indicated that 52%, 40%, and 41%, respectively, of the total variance was on Level 2. Reliabilities varied from .66 to .51. In sum, these results indicate that there is significant and reliable variability to be modeled in Level 2.

3.2.2 Growth Models for Prosocial Skills

Table 6 shows the results from fitting unconditional growth models – or models with no other Level 2 predictors than the intercepts – on Parent Sample 1, Parent Sample 2, Teacher Sample 1, and Teacher Sample 2.

Parent Sample 1 growth model would lead us to conclude that when Cycle 1 is defined as time 0, the predicted Prosocial Skills (PSS) score for time t is:

$$PSS_t = 12.58 + 0.63(t) + Error$$

Table 6
Unconditional Growth Models for Prosocial Skills

	Fixed Effects		Random Effects		Reliability
	Coefficient	SE	Variance	χ^2	
Parent Sample 1					
Intercept	12.58	0.13	7.82	2537.64***	.54
Linear Growth	0.63	0.08	1.33	1138.71***	.26
Parent Sample 2					
Intercept	12.61	0.19	8.22	1132.93***	.58
Linear Growth	0.65	0.11	1.36	513.41***	.28
Teacher Sample 1					
Intercept	11.18	0.23	10.55	1010.30***	.43
Linear	0.44	0.17	4.06	746.73***	.28
Teacher Sample 2					
Intercept	11.36	0.26	10.36	722.36***	.51
Linear	0.35	0.22	4.53	480.79***	.33

Note: Degrees of freedom for the $\chi 2$ tests were 845, 363, 455, and 285 for Parent Sample 1, Parent Sample 2, Teacher Sample 1, and Teacher Sample 2, respectively

*** $p < .001$

This model would predict an average PSS score of 12.58 for Cycle 1, 13.21 for Cycle 2, and 13.84 for Cycle 3. Teacher Sample 1 growth model predicts a slightly lower average PSS score of 11.18 for Cycle 1 and a slower growth rate at 0.44 points between measurement points. Predicted Cycle 2 score is now 11.62 and Cycle 3 score is 12.06. When the Cycle 1 numbers are compared to those in Tables 3 and 4 above, we can see that the predicted score is very close to the observed score for Parent Samples but more than a point lower for the Teacher Samples, suggesting that a linear model captures parent ratings more accurately than teacher ratings.

Parent ratings of children's prosocial skills were generally more stable over time than teacher ratings. Weighted sample correlations between Cycle 1 and Cycle 2 (N=956, r=.526, p=.000), Cycle 2 and 3 (N=819, r=.542, p=.000), and between Cycle 1 and 3 (N=860, r=.446, p=.000) for parent ratings of children's prosocial skills were higher than for Teacher ratings between Cycle 1 and 2 (N=338, r=.318, p=.000), Cycle 2 and 3 (N=294, r=.436, p=.000), and between Cycle 1 and 3 (N=207, r=.326, p=.000). Teachers' ratings also do not show comparable growth to that of the parents' ratings. It is important to remember, however, that teacher ratings come from three different teachers and are not replications as are the ratings of parents.

Correlations between the intercept and the linear growth coefficient offer one way of examining the Matthew effect or fan-spread hypothesis. Contrary to this expectation, these correlations were negative in all models above suggesting that higher prosocial scores in Cycle 1 were associated with less growth in the future. This finding is more consistent with a regression effect and does not support a fan-spread hypothesis where initial strengths or weaknesses are thought to continue over time.

3.2.3 Level 2 Models for the Intercept and Linear Growth Coefficients

Analyses Design. At Level 2, Level 1 coefficients representing intercept and linear growth are treated as outcome variables and interindividual variability in these coefficients is predicted with higher level variables. In our case, the second-level is the child model where either B_{0i} or B_{1i} will be modeled with variables representing child, family, community, and school characteristics (see Table 2). For the purpose of demonstration, we take B_{1i} as the example to show the model specification,

$$B_{1i}=G_{10} + \Sigma G_{1p}X_{pi} + Error$$

where G_{10} is the intercept which is a measure of the average rate of growth among children. Parameters (slopes) G_{1p} represent the effects of the p child-level variables on the rate of growth. We will model the rate of growth with four sets of predictor variables, all measured at Cycle 1. Set 1 consisted of variables that characterize the child, Set 2 of variables that characterize the child's family environment, Set 3 of variables that characterize the child's community or neighbourhood, and Set 4 of variables characterizing the child's school. Table 2 above presented the Level 2 predictor variables and identified the analyses in which they were used.

To differentiate the effects associated with child, family, community, and school characteristics, we used the method of block entry as outlined in Bryk and Raudenbush (1992). To develop the final model with each of the four samples (i.e., 2 parent samples and 2 teacher samples), the same procedure was used. First, a separate HLM model was developed for each of the four sets of predictor variables. This process involved entering first all predictor variables within a particular set (e.g. child variables) as predictors of the intercept (i.e., Cycle 1 ratings of prosocial skills), then stepwise pruning out the non-significant predictors from the intercept model (decisions regarding what predictors to exclude were based on their t values), and then repeating the same with the slope to obtain the final model for the specific set of predictors. These final set models (e.g. child predictors of Teacher Sample 1 prosocial skill ratings), therefore, include only significant predictors of the intercept and the linear growth coefficient, or the slope.

Second, after final set models were developed for all four sets of predictor variables, significant child, family, community, and school level predictors of the intercept are then combined (Bryk & Raudenbush, 1992, p. 211) and pruned (nonsignificant predictors were deleted stepwise from the model). While maintaining significant predictors of the intercept, all significant predictors of the linear growth coefficient are then entered simultaneously and the nonsignificant predictors are pruned. The consequence of this last step is a combined model including only significant child, family, community, or school level predictors of both the intercept and the linear growth coefficient. With the exception of categorical variables, all independent variables were standardized and centred around their grand means. This allows comparison of their relative significance as well as easy interpretation of the coefficients.

Level 2 Models for Parent Sample 1

The first model uses only parent reported variables to predict parent rated prosocial skills across the three cycles of data collection. By limiting both dependent and independent variables to those reported by the parents, the most representative sample was obtained to examine what parent reported independent variables predict parent rated prosocial skills. The reason for developing two different models for the same depended variable is the very substantial decrease in sample size (from 847 to 364) that occurs when teacher reported predictors are included.

Child Level Predictors

Table 7a presents the significant child level predictors of the intercept – representing ratings of prosocial skills at Cycle 1 – and the linear growth coefficient – representing subsequent growth. This model accounted for 17.5% of the intercept variance and only for 1.5% of the linear growth coefficient variance. Two variables, gender and involvement in recreational activities, will serve as examples of how to interpret the relationships between predictor variables and parent ratings of prosocial behaviour. Gender is a dichotomous variable with females coded as 0 and males coded as 1. The –1.32 coefficient indicates that male children had an average parent rated prosocial behaviour rating 1.32 points below the 12.59 intercept, therefore, approximate average score of 11.27. The involvement in recreational activities variable was a computed Likert type variable reflecting the maximum level of involvement in any of four kinds of recreational activities (organized sports, unorganized sports, art classes, or clubs). For each of these questions, parents could respond with 1 (most days a week), 2 (a few times a week), 3 (about once a week), 4 (about once a month), or 5 (almost never). The maximum level of involvement (the smallest score) across all of the activities was used as a single indicator reflecting a child's level of participation in activities. All Likert type variables were treated as having interval like properties and were standardized using z-score transformations. The -0.39 coefficient observed for the recreational activities score indicates that as scores on the involvement scale increase, (i.e., children are less involved) by one standard deviation, scores on parent ratings of children's prosocial skills are expected to be -0.39 points lower (i.e., from 12.59 to 12.20). Table 3 above indicates that for this sample, standard deviation was 1.02. Thus, one point increase in the recreational activities score is associated with an approximate .39 decline in the prosocial skills score.

Table 7a

Significant Parent Reported Child Level Predictors of Parent's Ratings of Their Children's Prosocial Skills (N=847)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	12.59	0.12	104.85	0.000
Child gender	-1.32	0.21	-6.37	0.000
Child Health	-0.23	0.11	-2.22	0.026
Physical condition	0.63	0.24	2.68	0.008
Looks forward to school	0.30	0.13	2.36	0.018
# of close friends	0.32	0.11	3.03	0.003
Gets along with teacher	-0.30	0.11	-2.62	0.009
Gets along with parent	-0.32	0.11	-2.82	0.005
Aggression	-0.24	0.11	-2.19	0.028
Recreational activities	-0.39	0.11	3.64	0.001
Linear Growth Coefficient				
Intercept	0.63	0.08	8.42	0.000
Looks forward to school	-0.19	0.08	-2.21	0.027

Note: Approximate degrees of freedom for the intercept are 837 and for the linear growth coefficient 845.

Nine child level variables significantly accounted for variation on the intercept and one variable significantly accounted for variation on the linear growth coefficient. Table 7a indicates that girls' prosocial skills were rated higher than those of boys by their parents. Parents who rated their children as less healthy also tended to rate their children as more prosocial. Children who were considered to have a physical condition such as allergies, bronchitis, heart condition, epilepsy, cerebral palsy, or kidney disease were rated as more prosocial by their parents than children without such conditions. Children rated as looking forward to school more tended to have higher prosocial skills ratings. The number of close friends that parents reported for their child was also significantly associated with the prosocial skills rating, with more friends associated with higher ratings. Similarly, parents that rated their children as getting along well with either themselves or with teachers tended to have higher prosocial skills ratings than children reported to get along less well with either their parents or teachers (note that for both of these variables, higher score reflected more problems). Children who were rated as more aggressive were also rated as having poorer prosocial skills by their parents. As mentioned previously, involvement in recreational activities was also associated with parents' rating of prosocial skill with children who participate more frequently in sports or art classes being rated higher on prosocial skills than those who participate less frequently.

Only one variable predicted significantly the linear growth coefficient or the predicted change in prosocial skills over time. The degree to which children were rated as looking forward to going to school was negatively associated with development, suggesting that higher ratings (looking forward to going to school more) in Cycle 1 was associated with a slower growth rate. Given that this variable had a positive effect on the intercept (see above), these results can be interpreted as an interaction effect indicating that the initial positive effect decreased over time. A one standard deviation increase in ratings of looking forward to school is associated with a .30 increase in the Cycle 1 prosocial skills rating, and a predicted .19 decrease in the average growth rate of .63. A further .19 decrease would be expected between Cycle 2 and Cycle 3.

Family Level Predictors

Table 7b presents findings from Parent Sample 1 model with family level predictors. This model accounted for 16.6% of the intercept variance and 4.4% of the linear growth coefficient variance. Five family level factors significantly accounted for variance in Cycle 1 parent ratings of children's prosocial skills. Higher ratings of maternal depression were associated with poorer ratings of children's prosocial skills. Similarly, better family functioning was associated with higher ratings of children's prosocial skills. Parents that reported a greater use of health related services tended to rate their children as more prosocially competent. Two of the four self-report scales of parenting practices were predictive of parent's ratings of their children's prosocial skills. Higher positive interactions scores were associated with higher ratings of children's prosocial skills. Higher ratings of use of punitive discipline were associated with lower ratings of children's prosocial skills.

Table 7b

Significant Family Level Predictors of Parent's Ratings of Their Children's Prosocial Skills (N=847)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	12.54	0.12	103.67	0.000
PMK Depression	0.25	0.13	1.99	0.049
Family Functioning	-0.35	0.11	-3.12	0.002
Health Utility Index	0.50	0.15	3.36	0.001
Positive Interactions	0.67	0.13	5.28	0.000
Punitive Discipline	-0.43	0.11	-3.82	0.000
Linear Growth Coefficient				
Intercept	0.64	0.08	8.48	0.000
Health Utility Index	-0.20	0.10	-2.13	0.033
Positive Interactions	-0.19	0.08	-2.45	0.014

Note: Approximate degrees of freedom for the intercept are 841 and for the linear growth coefficient 844.

Two family level variables predicted significantly the linear growth coefficient or the predicted change in prosocial skills over time. The degree to which families reported using health services and parent reported positive interactions were associated with less growth in parent rated prosocial skills over time. As both factors were associated with higher prosocial skill ratings at Cycle 1, these negative coefficients indicate that the initial positive effects did not stay as pronounced over time.

Community Level Predictors

Table 7c presents findings from Parent Sample 1 model with community level predictors. This model accounted for 6.3% of the intercept variance and 4.5% of the linear growth coefficient variance. Two community level variables, the Neighbours score and the Neighbourhood Problems score, accounted for unique variance in parent ratings of children's prosocial skills in Cycle 1. The Neighbours score is a composite of 5 items that ask about the cohesiveness of the community. Questions include statements such as 'People around here are willing to help their neighbour,' and 'There are adults in the neighbourhood that children look up to.' Parents that rated their neighbours as better role models or as more supportive or helpful tended also to rate their children as more prosocially competent. The Neighbourhood Problem score is a composite of 5 items that assess the extent of alcohol, drug, theft, and gang related problems in the neighbourhood as well as a the extent of ethnic or religious conflict. Generally, the fewer problems parents reported in their neighbourhoods the more prosocial parents rated their children.

Table 7c
Significant Community Level Predictors of Parent's Ratings of Their Children's Prosocial Skills (N=847)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	12.58	0.12	100.40	0.000
Neighbours	0.75	0.13	5.57	0.000
Neighbourhood Problems	-0.24	0.11	-2.07	0.038
Linear Growth Coefficient				
Intercept	0.63	0.08	8.28	0.000
Neighbours	-0.19	0.08	-2.52	0.012

Note: Approximate degrees of freedom for the intercept are 844 and for the linear growth coefficient 845.

Only one community level variable predicted significantly the linear growth coefficient or the predicted change in prosocial skills over time. The more supportive parents rated their neighbours at Cycle 1, the less parent ratings of their children's prosocial skills increased over time indicate that the initial positive effect was reduced over time. We should note, however, that small decrease in growth rate does not wipe out the positive effect even after two more measurement points.

School Level Predictors

No school level factors significantly accounted for variance in either the intercept or the linear growth coefficient.

Combined Model for Parent Reported Predictors of Parent Rated Prosocial Skills

Table 7d presents significant predictors of the intercept and the linear growth coefficient in the combined model for Parent Sample 1. The combined model was constructed by first entering all the significant predictors of the intercept from Tables 7a to 7c, then pruning the model so that only those intercept predictors remained that were still significant, and then repeating this process with the significant predictors of the linear growth coefficient. The combined model accounted for 26.9% of the intercept variance and 5% of the slope variance.

Table 7d

Significant Parent Reported Predictors of Parent's Ratings of Their Children's Prosocial Skills (N=847)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	13.11	0.15	84.79	0.000
Child gender	-1.40	0.20	-7.02	0.000
Physical condition	0.49	0.22	2.20	0.027
# of close friends	0.29	0.10	2.97	0.003
Gets along with teacher	-0.28	0.11	-2.53	0.012
Aggression	-0.30	0.11	-2.64	0.009
Recreational activities	-0.30	0.11	-2.78	0.006
PMK Depression	0.25	0.12	2.14	0.032
Family Functioning	-0.25	0.11	-2.31	0.021
Positive interactions	0.55	0.12	4.49	0.000
Ineffective parenting	-0.34	0.11	-3.22	0.002
Neighbours	0.49	0.12	4.02	0.000
Neighbourhood problems	0.25	0.10	2.42	0.016
Linear Growth Coefficient				
Intercept	0.64	0.08	8.46	0.000
Positive interactions	-0.16	0.08	-2.10	0.036
Neighbours	-0.17	0.08	-2.19	0.028

Note: Approximate degrees of freedom for the intercept are 834 and for the linear growth coefficient 844.

Twelve variables were significant predictors of individual differences in parent rated prosocial skills in Cycle 1, and two variables predicted significantly the linear growth coefficient. Six of the twelve significant predictors of the intercept were child level variables. Six of the original 9 significant child level factors were remained significant in the combined model, indicating that they predict unique variance in the intercept. Briefly, girls' prosocial skills were rated higher than those of boys by their parents. Parents who rated their children as participating more frequently in sports or art classes, having more friends, or getting along well with the teacher tended also to rate their children as more prosocial. Children who were considered to have a physical condition were rated as more prosocial by their parents than children without such conditions. Finally, children who were rated as more aggressive were also rated as having less prosocial skills by the parents.

Three child level variables that were significant in the child level model above (Table 7a) were not significant in the combined model. The three child level predictors that were dropped from the model include child health, looks forward to school, and gets along with parent. Child health had the second lowest coefficient (.23) with parent rated prosocial skills in the child level model and was significantly correlated with the neighbours score (r=.207). Looks forward to school had the lowest coefficient (r=.19) in the child level model and it was significantly correlated both with the ineffective parenting score (r=-.168) and the neighbours score (r=.237). Although how well children got along with parents was a slightly stronger predictor of parent ratings of children's prosocial skills (coefficient=.32) in the child level model, it was very highly correlated with the ineffective parenting score (r=-.472).

Four family level variables uniquely accounted for variance in children's parent rated prosocial skills. Ratings of depressive symptoms by the person most knowledgeable as well as ratings of family functioning were predictive of parent ratings of children's prosocial skills. Higher ratings of depressive symptoms were associated with lower ratings of children's prosocial skills. Better ratings of family functioning were associated with higher parent ratings of children's prosocial skills. Positive interactions, a parenting scale assessing the frequency of parents' reported positive interactions with their child, predicted children's prosocial skills rating with more positive interactions associated with higher ratings of prosocial skills. Similarly, parents who reported more hostile/ineffective interactions with their children reported their children as less prosocial.

One variable that was a significant predictor of the intercept in the family level model variables was no longer significant in the combined model. Parent use of health related services for their children as measured by the health utility index was dropped from the final combined model. Health utility index was correlated with the child aggression score (r=-.228), the family functioning score (r=-.199), the ineffective parenting score (r=-.220), and with the neighbours score (r=.210). Shared variance with these factors may account for why Health utility index scores were no longer predictive in the final combined model.

Two community level variables, the neighbours score and the neighbourhood problems score, contributed uniquely to predicting parent ratings of children's prosocial skills in Cycle 1. Parents that rated their neighbours as better role models or as more supportive or helpful tended to rate their children as more prosocial. Further, the fewer problems parents reported in their neighbourhoods the more prosocial they rated their children.

Only two variables predicted significantly the linear growth coefficient or the predicted change in prosocial skills over time. Both the positive interactions score and the neighbours score were negatively associated with development, suggesting that higher ratings of positive parent-child interactions and supportive neighbours in Cycle 1 were associated with less growth in prosocial skills ratings over time. Given that both of these variables had a positive effect on the intercept, these results can be interpreted as an interaction effect indicating that the initial positive effect will decrease over time. Using positive parenting interactions as an example, a one standard deviation increase in positive interactions is associated with a .55 increase in the Cycle 1 prosocial skills rating, and a predicted .16 decrease in the growth of prosocial skill ratings from Cycle 1 to Cycle 2. A further .16 decrease would be expected between Cycle 2 and Cycle 3. Thus, when the average prosocial skill score in Cycle 1 was 13.11 and the average predicted growth rate was .64, one standard deviation increase in the positive interactions score would be associated with the initial score of 13.66 and a growth rate of .48 from Cycle 1 to Cycle 2, and .32 from Cycle 2 to Cycle 3. Given these numbers, the importance of positive interactions would still be noticeable at Cycle 3.

Level 2 Models for Parent Sample 2

Parent Sample 2 consisted of those children who had data available on parent reported prosocial skills and both parent and teacher reported independent variables. It is a subsample (N=364) of the Parent Sample 1 (N=847). The purpose of these analyses is to examine if teacher reported predictor variables can account for intercept and linear growth coefficient variance when entered simultaneously with parent reported variables. Only teacher reported factors are of interest in these analyses as the parent reported factors are redundant with the analyses conducted on the larger sample and reported above.

The final child level, family level, community level, and school level models included no significant teacher reported predictor variables. This suggests that teacher reported predictors do not account for unique variance in parent reported prosocial skills after controlling for parent reported predictor variables. Below we will examine whether the same is true for teacher reported prosocial skills.

Level 2 Models for Teacher Sample 1

For Teacher Sample 1 (N=456), only parent reported variables are used to predict teacher ratings of children's prosocial skills and change in these ratings across the three cycles of data collection. As above, separate models were first developed for each of the four clusters of predictors i.e., child, family, community, and school. These models were combined into a single model examining what parent rated predictor variables can account for unique variance in teacher rated prosocial skills.

Child Level Predictors

The model displayed in Table 8a involves only parent reported child level variables associated with teacher reported prosocial skills. This model accounted for 32.4% of the intercept variance and none of the slope variance. Four child level variables significantly accounted for variance in teachers' ratings of children's prosocial skills. Gender was again a significant predictor of teacher ratings with girls being rated as more prosocial than boys. Moreover, gender differences were more pronounced on teacher ratings than on parent ratings of children's prosocial skills. Parent ratings of how well children got along with their teacher significantly accounted for intercept variance with children rated by their parents as getting along well with their teachers being also rated as more prosocial by teachers. The same was true for parent rated school performance. Finally, parent ratings of their child's indirect aggression were associated with poorer teacher ratings of children's prosocial skills.

Table 8a

Significant Parent Reported Child Level Predictors of Teacher's Ratings of Children's Prosocial Skills (N=456)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	11.22	0.20	54.62	0.000
Child gender	-2.31	0.33	-7.06	0.000
Gets along with teacher	-0.71	0.21	-3.56	0.001
School Performance	-0.46	0.17	-2.65	0.008
Indirect Aggression	-0.43	0.17	-2.58	0.010
Linear Growth Coefficient				
Intercept	0.45	0.17	2.65	0.008

Note: Approximate degrees of freedom for the intercept are 451 and for the linear growth coefficient 455.

No child level variables predicted significantly the predicted change in teacher rated prosocial skills over time.

Family Level Predictors

Significant parent reported family level predictors of children's prosocial skills as rated by teachers are presented in Table 8b. This model accounted for 7.7% of the intercept variance and none of the variance in the slope. Only 2 of the possible 24 family level factors significantly accounted for variance in the intercept (Cycle 1 teacher ratings of children's prosocial skills). Parent reported socioeconomic status (SES) predicted teacher ratings of children's prosocial skills. One standard deviation increase in parent reported SES was associated with a .65 increase in teacher's ratings of prosocial skills. Finally, children who were reported by parents to spend more time in alternative care arrangements (other than the home supervised by parents), tended to have lower prosocial skill ratings by teachers.

Table 8b

Significant Family Level Predictors of Teacher's Ratings of Their Children's Prosocial Skills (N=456)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	11.12	0.22	49.93	0.000
Socio-economic status	0.65	0.17	3.81	0.000
Hours in all care arrange.	-0.36	0.14	-2.52	0.012
Linear Growth Coefficient				
Intercept	0.49	0.17	2.86	0.005

Note: Approximate degrees of freedom for the intercept are 453 and for the linear growth coefficient 455.

No family level factors were statistically significant predictors of the linear growth coefficient.

Community Level Predictors

The neighbours score emerged as the only community level variable that accounted for variance in Cycle 1 teacher ratings of children's prosocial skills. This result is presented in Table 8c.

Table 8c

Significant Community Level Predictors of Teacher's Ratings of Children's Prosocial Skills (N=456)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	11.17	0.23	49.21	0.000
Neighbours	0.40	0.18	2.22	0.026
Linear Growth Coefficient				
Intercept	0.45	0.17	2.64	0.009

Note: Approximate degrees of freedom for the intercept are 454 and for the linear growth coefficient 455.

This model accounted for 1.3% of the intercept variance and none of the variance in slope. Parents that reported greater neighbourhood cohesiveness tended to have children rated higher on prosocial skills by teachers. No community level factors predicted significantly the linear growth coefficient, or the predicted change in teacher rated prosocial skills over time.

School level predictors

There were no significant parent reported school level predictors of teachers' ratings of children's prosocial skills.

Combined Model for Parent Reported Predictors of Teacher Rated Prosocial Skills

The final combined model for parent reported predictors of teacher rated prosocial skills displayed in Table 8d accounted for 31.7% of the intercept variance and 3% of the slope variance. Three of the four significant predictors of teacher rated prosocial skills were child level variables. Gender, ability to get along with teachers, and academic performance all accounted for unique variance in children's prosocial skills as rated by teachers. Again, girls were rated higher than boys with boys' teacher rated prosocial skill scores being 2.23 points lower than those of girls. The better children were reported to get along with teachers by their parents, the higher their teachers rated them on prosocial skills. Children who were rated as performing better at school by their parents were also rated as more prosocial by their teachers.

Table 8d
Significant Parent Reported Predictors of Teacher Ratings of Children's Prosocial Skills (N=456)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	12.25	0.24	50.44	0.000
Child Gender	-2.23	0.32	-6.87	0.000
Gets along with teacher	-0.78	0.20	-3.93	0.000
School performance	-0.43	0.17	-2.48	0.014
SES	0.40	0.14	2.77	0.006
Linear Growth Coefficient				
Intercept	0.48	0.17	2.87	0.005

Note: Approximate degrees of freedom for the intercept are 451 and for the slope 455.

Only 1 family level variable was a significant predictor of the Cycle 1 prosocial skills. The higher the families reported their socio-economic status, the higher teacher's rated their child's prosocial skills.

Three of the four child level predictors that were significant in the child level model were significant in the combined model. Indirect aggression was no longer significant when included in the combined model. Parent rated children's indirect aggression score correlated -.164 with parent reported socio-economic status. One family level predictor that was significant in the family model was no longer significant in the combined model.

Hours in all care arrangements was significantly correlated with how well children were reported by parents to get along with the teacher (r= .305). The Neighbours score, which was significant in the community level model, was no longer significant in the combined model. The Neighbours score, however, was correlated with school performance (r= -.148) and getting along with teacher ratings (r= -.208), as well as with parent reported SES (r= .293).

Finally, no variables significantly predicted change in teacher ratings of prosocial skills over time. In general, it appears that child level variables are clearly the most powerful predictors of teacher rated prosocial skills and little is gained by adding family or community level variables to the model.

Level 2 Models for Teacher Sample 2

Teacher Sample 2 (N=286) was used to examine if teacher reported predictor variables can predict teacher ratings of children's prosocial skills when entered simultaneously with parent reported variables. Discussion of the results focuses on teacher reported predictor variables as analysis of parent rated predictors were carried out above with a larger sample (Teacher Sample 1, N=456). As above, separate models were first developed for each of the different clusters i.e., child, family, community, and school. In the following sections, each of these models will be first presented, followed by the presentation of the combined model.

Child Level Predictors

The model displayed in Table 9a includes both parent and teacher reported child level factors associated with teacher rated child prosocial skills. This model accounted for 44.4% of the intercept variance and 7.5% of the slope variance. Only one teacher rated variable, teacher rated academic skills, significantly accounted for variance in the intercept. Academic skills scores reflect the following skills: listens attentively, follows directions, completes work on time, works independently, takes care of materials, and works neatly and carefully. For every 1 standard deviation increase in academic skills ratings by teachers there would be an expected 1.36 increase in teacher rated prosocial skills score.

Table 9a
Significant Teacher and Parent Reported Child Level Predictors of Teacher's Ratings of Children's Prosocial Skills (N=286)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	12.24	0.28	43.54	0.000
Child gender	-1.84	0.41	-4.52	0.000
Gets along with teacher	-0.77	0.24	-3.20	0.002
Indirect Aggression	-0.47	0.22	-2.17	0.030
Academic skills	1.36	0.26	5.19	0.000
Linear Growth Coefficient				
Intercept	0.36	0.21	1.72	0.085
Academic Skills	-0.76	0.19	-3.97	0.000

Note: Approximate degrees of freedom for the intercept are 451 and for the linear growth coefficient 455.

Teacher rated academic skills significantly accounted for variance in the slope as well. Here, however, the relationship was negative with a one standard deviation increase in Cycle 1 academic skills score associated with a 0.76 decrease in prosocial skills ratings between Cycle 1 and Cycle 2, and a further decrease of 0.76 between Cycle 2 and Cycle 3. This indicates that the initial positive effect of academic skills disappears by Cycle 3.

Family Level Predictors

The model displayed in Table 9b includes both parent and teacher reported family level variables associated with teacher rated child prosocial skills.

Table 9b

Significant Family Level Predictors of Teacher's Ratings of Their Children's Prosocial Skills (N=287)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	11.40	0.25	44.93	0.000
Gender of PMK	-1.38	0.70	-1.96	0.049
Socio-economic status	0.50	0.20	2.47	0.014
# hours in all care arrange.	-0.45	0.19	-2.33	0.020
Support of schooling	-1.35	0.25	-5.40	0.000
Linear Growth Coefficient				
Intercept	0.35	0.21	1.61	0.106
Support of schooling	0.44	0.22	1.99	0.046

Note: Approximate degrees of freedom for the intercept are 836 and for the linear growth coefficient 844.

This model accounted for 20.2% of the intercept variance and none of the slope variance. One teacher reported family level variable significantly accounted for variance in the intercept. Parents' support for schooling, judged on the basis of how well prepared their children were for school on a daily basis, significantly accounted for variance in teacher ratings of children's prosocial skills. Parents who were rated as more supportive tended to have children rated as more prosocial by their teachers.

Community Level Predictors

Teachers did not report on the quality of the community and so this analysis is not reported here. All community level factors examined in this study were reported by parents and results are presented above for teacher sample 1.

School Level Predictors

The model displayed in Table 9c includes both parent and teacher reported school level factors associated with teacher rated children's prosocial skills. This model accounted for 0.87% of the intercept variance and none of the slope variance. One teacher reported variable, teacher rated academic expectations, significantly accounted for variance in Cycle 1 teacher rated child prosocial skills. Teachers reported the maximum level of education that they expected a child to achieve. Higher teacher expectations were associated with better prosocial skill ratings.

Table 9c
Significant School Level Predictors of Teacher's Ratings of Their Children's Prosocial Skills (N=286)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	11.35	0.26	43.52	0.000
Academic Expectations	0.53	0.24	2.16	0.030
Linear Growth Coefficient				
Intercept	0.35	0.22	1.61	0.106

Note: Approximate degrees of freedom for the intercept are 284 and for the linear growth coefficient 285.

No variable significantly accounted for variance in the slope.

Combined Parent and Teacher Reported Predictors Teacher Sample 2

Table 9d presents the significant predictors of intercept and linear growth coefficient for Teacher Sample 2 in which teacher rated prosocial skills were predicted from both teacher and parent reported independent variables. This model accounted for 44.5% of the intercept variance and 7% of the slope variance and includes only child level variables.

Many of the same parent reported variables that significantly predicted teacher ratings of children's prosocial skills for Teacher Sample 1 were also significant for Teacher Sample 2. Child gender, how well they get along with the teacher, and indirect aggression were significant in both analyses. Unique to Teacher Sample 2 is the inclusion of one teacher reported child level variable. Children who had higher teacher rated academic skills also had higher teacher rated prosocial skills. We should also note that after teacher reported academic skills were included, parent reported school performance score was no longer a significant predictor of teacher. That is not surprising given that the measures were highly correlated (-.520).

Teacher's rating of academic skills was the only variable that significantly predicted change in prosocial skills over time. Higher teacher ratings of children's academic skills in Cycle 1 were associated with a considerable decrease in the growth rate over the next four years. As teacher ratings of social skills were also associated with significant increase (1.36 points) in Cycle 1 prosocial skills, negative slope indicates that this initial benefit disappears over time. This is perhaps not surprising given that Cycle 1 academic and prosocial ratings were done by the same teacher, whereas Cycle 2 and Cycle 3 prosocial skills ratings were completed by different teachers.

Table 9d

Significant Parent and Teacher Reported Predictors of Teacher Ratings of Children's Prosocial Skills (N=285)

Fixed Effect	Coefficient	Standard Error	T-ratio	p-value
Intercept				
Intercept	12.24	0.28	43.54	0.000
Child Gender	-1.84	0.41	-4.52	0.000
Gets along with teacher	-0.77	0.24	-3.20	0.002
Indirect aggression score	-0.47	0.22	-2.17	0.030
Academic Skills	1.36	0.26	5.19	0.000
Linear Growth Coefficient				
Intercept	0.34	0.21	1.61	0.106
Academic Skills	-0.76	0.19	-3.97	0.000

Note: Approximate degrees of freedom for the intercept are 281 and for the slope 284.

4. Discussion

Given that multiple findings from different levels of analysis are of interest to us, the discussion will be guided by the following structure that is replicated across the two dependent measures. First, general findings regarding the psychometric properties of the dependent measures will be discussed. Second, general statements regarding the use of multiple predictors will be made in relation to the amount of variance explained on both the intercept and the slope of the dependent measures. Third, a more detailed examination of the unique contributions of particular factors identified from the literature and outlined in the introduction will be conducted. This examination will include a discussion of implications for research and policy.

One central finding of the present study was that parent and teacher ratings of children's prosocial skills were quite different. A weak correlation (r=.22, N=400) and a clear 2 factor solution suggest that parents' and teachers' ratings of children's prosocial skills differ substantially. This finding is consistent with parent and teacher ratings of children's prosocial behaviour found in a sample of 390 elementary school children between 7 and 10 years old in Italy (Caprara & Pastorelli, 1993), as well as with other previous studies that have pointed out inconsistency between parents' and teachers' ratings of prosocial skills (e.g., Dunn, 2001; Eisenberg et al., 1999; Warden et al., 1999). These authors agree that both parents and teachers provide useful information and the use of multiple informants is critical to complete assessment of social competency.

Three hypothesized reasons to account for differences between parent and teacher ratings include: (1) Children may demonstrate very different behaviours at home and at school, (2) parents and teachers may interpret or understand the questions differently, and (3) reports of children's prosocial skills may be confounded by the quality of the raters' relationship to the rated child. All are potential confounding issues that make interpretation difficult and little within the present study can be used to tease apart the various explanatory factors.

Three kinds of systematic differences between parents and teachers may account for differences in the way parents and teachers interpret and respond to prosocial skills questions. Differences can exist in how parents and teachers understand and can accurately identify the behaviours in question, i.e., 'shows sympathy to someone who has made a mistake.' Further, the amount of opportunity to observe particular behaviours may differ for parents and teachers. Finally, ratings of "never true," "sometimes or somewhat true," and "often" or "very true" are vague and considerable interpretation is required by the respondent to determine what is meant by such statements. In order to respond to such questions, parents and teachers must make relative judgments. Teachers likely consider the target child's demonstration of particular behaviours relative to other children in the class and to expectations of the child's behaviour within the context of the day to day functioning of the class. However, our results also indicate that teacher ratings were more sensitive to social and economic status variables. This finding could indicate that teachers are influenced by or consider the social and economic status of children in rating children's social skills. Further research and analysis is required to examine this issue.

Parents may use their experience with siblings and other children to help them make judgments of their own child's performance. However, most parents have much less experience than teachers with same-age children functioning in groups and thus may lack a realistic reference point.

Some evidence supports the possibility that reports of children's prosocial skills may be confounded by the quality of the rater's relationship to the rated child. Parents' ratings of the degree to which their child got along with their teacher had the third highest correlation (r=.32) with teacher rated prosocial skills. Although this relationship is not overwhelming, this rating also shows up as a unique predictor in both models of teacher rated prosocial skills. A significant, although weaker, correlation was observed between the degree to which parents rated their children as getting along with them (r=.16) and their ratings of children's prosocial skills. How well children got along with parents did not uniquely contribute to the variance on parent rated prosocial skills in either of the parent models. The quality of parent and child interactions was, however, a significant predictor and may be a more sensitive and appropriate indicator of how well parents and children get along. Moderate correlations between positive interactions or the positive parenting variable and parents' ratings of children's prosocial skills are consistent with the hypothesis that children who have established a positive relationship with the rater are rated higher on prosocial skills.

Parents also rated their children as more prosocial than teachers. On the largest comparable sample (N=320), parents (mean=12.85) rated children 1.76 points higher than teachers (11.09) in Cycle 1 when children were 7 years old. Further, these differences were maintained over time in Cycles 2 and 3.

A second issue of relevance in the present analyses involves the stability of prosocial ratings over time. The proportion of Level 2 variance that is attributed to the slope in the unconditional model is an indication of the amount of variability in estimated growth. Less variability in regression slopes were observed for parent rated prosocial skills (14.5%), than for teacher rated prosocial skills (27.8%). This finding is not surprising given that parent ratings are replicated across the three years where as different teachers rated children's prosocial skills at the three data points. Correlational evidence provides further support to the conclusion that parent ratings of children's prosocial skills were generally more stable over time than teacher ratings.

One important hypothesis examined in the present investigation involved testing if initial differences between children's Cycle 1 ratings of prosocial skills increase over time. More specifically, it has been hypothesized that children who demonstrate better initial prosocial skills will have greater opportunity to engage in positive peer and adult interactions that should lead to even further development of such skills. Conversely, children with poor initial prosocial skills may not have the skills to participate in positive peer and adult interactions that are seminal in the further development of prosocial skills. This hypothesis, often referred to as the Matthew effect or the fan-spread hypothesis, was tested in the present investigation by looking at the correlations between the intercept and the linear growth coefficient. Negative correlations observed in all four analyses in Table 6 imply that lower prosocial skills ratings in Cycle 1 were associated with more growth than higher initial ratings. This finding is more consistent with a regression-to-the-mean effect or fan-in hypothesis and does not support a fan-spread hypothesis where initial strengths or weaknesses are thought to continue, and increase, over time. It should be noted that both parent and teacher ratings of prosocial skills are non-developmental measures. The behaviours are broad and not developmentally specific, i.e., all behaviours are demonstrated by most or all children across all the age groups incorporated in this study. It is therefore not presumed that older children will necessarily demonstrate more of these behaviours, or more often than younger children. Finally, ceiling and floor effects may also account for a lack of support for the fan-spread hypothesis, although examination of the means and standard deviations does not support this hypothesis.

The final HLM model for the Parent Sample 1 accounted for approximately 25% of the intercept variance. Ten parents reported variables contributed significantly to accounting for variance in parent ratings of their children's prosocial skills in Cycle 1. On the basis of these results, it appears that prosocial skills, as rated by parents, are dependent on a multitude of factors. The fact that one or two child level variables did not account for the majority of the explained variance is consistent with ecological theories that suggest that health and abilities are influenced by multiple factors operating synergistically. Further, family and community level factors contributed significantly to accounting for children's prosocial skills over and above child level variables. In fact, pruned child and family level models each accounted for approximately 18% of the variance in parents' ratings of children's prosocial skills. This provides further support for the potential influence of more distal factors on children's abilities. Only 5% of the variance in the linear growth coefficient was accounted for by the significant independent variables suggesting that there is little predictive power in the variables used. However, it should also be noted that high stability of ratings across time means that there was little variability to account for in the first place.

Unique in the second set of HLM analyses (Parent Sample 2) predicting parent ratings of children's prosocial skills was the inclusion of teacher reported variables. These analyses clearly showed that teacher reported variables did not account for unique variance in parent rated prosocial skills.

Teacher Sample 1 models included teacher rated prosocial skills as the dependent variable and parent reported independent variables. The final model accounted for 32% of the intercept variance but none of the slope variance. This may be considered a large amount of the intercept variance accounted for and deserves careful consideration. Remarkable in this analysis is that questions asked exclusively to parents could account for close to a third of the variance in teacher rated prosocial skills, particularly considering the very low correlations between parent and teacher ratings of the same skills. In comparison to parent rated prosocial skills, however, almost all of the variance is accounted for by child level variables. In fact little is gained by the inclusion of parent rated family, community, and school level factors. The only exception to this was the inclusion of parent ratings of SES. Perhaps teachers are less knowledgeable about the many family and community level factors than the parents and therefore base their ratings more on what they know about the children themselves.

In comparison to the parent rated prosocial skills, teacher rated prosocial skills were more sensitive to the families' socio-economic standing. This is evident in contributions of SES in the final model and in higher correlations between ratio of household income to LICO, SES, and teacher ratings of prosocial skills than between those factors and parent ratings of prosocial skills. Conversely, parent ratings of children's prosocial skills appear to be more sensitive to measures associated with parenting practices. Again, this interpretation is supported by both the final HLM models as well as with higher correlations between parenting measures and parent ratings of children's prosocial skills.

The observation that teacher rather than parent scores are more sensitive to socio- economic status variables is not surprising. Parents from lower status families probably rate their children's prosocial skills relative to other children from families sharing their social and economic status. Parent expectations of children's behaviour may also vary as a function of their social and economic status. As mentioned previously, possible teacher bias to children from lower socio-economic backgrounds may account for the relationship between parent reported social and economic status variables and teacher ratings of children's prosocial skill. It is not possible to determine here if children from lower status families are indeed less prosocial within the school context. It is equally possible that the questions developed or teacher perceptions are biased towards valuing the behaviour and skills typically demonstrated by higher status children. Both teachers and researchers who constructed the questionnaires may have been influenced by middle class values.

The final model of the second teacher sample also included teacher rated independent variables and accounted for 44.5% of the intercept variance and 4.2% of the slope variance. School performance and academic skills were highly correlated with teacher ratings of children's prosocial skills. This was true even of parent ratings of the children's school performance (r=-.294), but was particularly true of teacher rated academic skills (r=.464). The finding that ratings of children's academic skills are highly correlated with teacher ratings of children's prosocial skills is consistent with recent work of Caprara et al. (2000), who found that early ratings of children's prosocial skills were highly predictive of children's academic performance 5 years later. Caprara et al. interpreted their findings as being consistent with the ecological perspective of social cognitive theories where children's cognitive development is strongly influenced by the social relations in which it is embedded. According to Caprara et al., peers bond to prosocial children around social and scholastic activities and prosocial skills foster cognitive development by creating enduring school environments that are particularly conducive to learning. Our results are open to similar interpretation, although the available data does not allow for detailed examination of the mechanisms of effect.

Three primary findings are presented and discussed in this report. First, although both parent and teacher reports of children's prosocial skills increased over time, parents and teachers differ substantially on their judgments regarding children's prosocial skills. There is a weak correlation between parent and teacher ratings of children's prosocial skills. Parents generally rate children as more prosocial than teachers. Parent ratings of children's prosocial skills are more stable over time. Both parent and teacher reported child variables were better predictors of teacher rather than parent reports of children's prosocial skills. Further work is required to determine the validity and usefulness of parent and teacher ratings of children's prosocial skills for understanding and measuring child behaviour, skills, ability, and development.

Second, multiple child, family, and community level variables contribute significantly to predicting parent but not teacher ratings of children's prosocial skills. Child level variables alone accounted for almost all the explained variance in the combined models for teacher ratings with the exception of parent reported SES. Results from models with parent ratings of children's prosocial skills are consistent with the ecological approach. One implication for policy is that intervention and promotion efforts need to go beyond simply working with children to develop important capacities such as prosocial skills. The quality of family functioning, availability of resources, supports, and activities, and the quality of communities are relevant targets for intervention if we are to address the health and development of children. However, these findings have to be replicated before any firm conclusion can be drawn as predicting teacher ratings of children's prosocial skills do not seem to benefit from the inclusion of family, and community level factors. As discussed above, this may also reflect teacher's lack of knowledge regarding at least some of these factors in their student's lives.

Third, change in prosocial ratings was limited and poorly predicted by the included independent variables. Contrary to the Mathew effect or the fan-spread hypothesis, early differences in children's prosocial skills did not increase over time. In fact, the opposite was observed as initial differences in Cycle 1 prosocial ratings decreased over time for both parent and teacher ratings. It should be noted that limited change in prosocial skills scores suggest stability in relative standing over the four year period examined in this study. Stability in relative ratings of prosocial skills suggests that the years before 7 may be particularly important in establishing prosocial skills and behaviour. Further research is required to determine when prosocial skills develop and stabilize. Perhaps intervention, prevention, and promotion efforts need to be targeted for younger children in order to be most effective.

Secondary findings in this study involve a number of specific hypotheses drawn from the literature review. In the following sections, specific hypotheses regarding the role of particular factors to the development of children's prosocial skills will be examined and implications for research and policy will be outlined.

Gender: Significant gender differences were observed in this study favouring better prosocial skills in girls. This finding is consistent with previous literature (Bear & Rys, 1994; Eberly & Montemayor, 1998). Given evidence that typically boys and girls are socialized differently, it is important to examine interactive effects between gender and different kinds of socializing practices such as parenting and larger societal values. We should also note that gender was a particularly strong predictor of teacher rated prosocial skills. What ramifications this has for the educational careers of boys warrants further investigation, particularly given the existing studies showing the strong connection between earlier prosocial skills and later academic success (Caprara et al., 2000).

TV viewing: Hours of TV viewing did not emerge as a significant predictor of children's prosocial skills. However, this may reflect restricted variability in our sample. The average amount of time that these children were reported watching TV per day was less than two hours with 95% of the children watching one to three hours per day. Further, no measures were in place to assess the type or quality of programs viewed, limiting any implications for policy drawn from this research. Despite a limited range in hours of viewing, correlations with TV watching and several child behaviour indicators were in the expected direction, albeit small. Greater amounts of television viewing were associated with lower ratings of prosocial skills (r=-.127), and higher ratings of hyperactivity (r=.117), emotional disorder (r=.103), indirect aggression (r=.126), and property offences (r=.159). Given previous research on the effect of children's television viewing on development (Huston et al., 1999; Wright & Huston, 1995), as well as the recent proliferation of both educational and noneducational programs accessible and targeted to children, it becomes imperative to examine the amount, type, and quality of programs that children are exposed to.

Peer relations: The number of close friends parents reported their child having significantly explained variance in parent ratings of children's prosocial skills. Although it is impossible to make any causal inferences, adherence to a transactional model would suggest that prosocial children are more likely to develop close friendships and that such friendships provide the opportunity and context to develop further skills important for later adjustment. The number of close friends that parents reported for their children was positively correlated with parent ratings of children's prosocial skills and negatively correlated with ratings of hyperactivity, emotional disorder, aggression, indirect aggression and property offences. Having more positive experiences with different children may help reduce negative behaviours and develop and generalize positive skills. Further research is required in order to examine the effects of the quantity and quality of peer interactions to the formation of friendships and prosocial skills.

Disability status: Contrary to expectations and to previous research (Rinaldi et al., 1996), children who were identified as having a diagnosed physical condition were rated by parents as more prosocial than children without such condition. Although some physical conditions may reduce the opportunity of children to participate in recreational activities and predispose some children to teasing and alienation from peer groups, the most frequently identified physical conditions reported by parents were less visually obvious and debilitating conditions such as allergies and bronchitis. Further, having a physical condition was a significant predictor of parent but not of teacher ratings of children's prosocial skills. Some evidence suggest that parents become more sensitive to positive characteristics or qualities of their children after receiving a diagnosis (Wilgosh, Scorgie, & Fleming, 2000). Further, it is possible that parent expectations of their children change as a consequence of diagnosis.

Although the child behaviour questions asked to parents are not measures of disability status, they are suggestive of problems. Negative correlations between behavioural measures such as hyperactivity, emotional problems, aggression, indirect aggression, and property offence with both parent and teacher ratings of prosocial skills are consistent with findings that children with behavioural and learning problems, such as attention deficit hyperactivity disorder, experience poor levels of social competence (Merrell & Wolfe, 1998; Semrud-Clikeman & Schafer, 2000; Vaughn, Erlbaum, & Boardman, 2001). The obvious implication of this finding to policy involves the importance of identifying children with emotional and behavioural problems early for remedial social skills training programs. Although not examined in this study, it is also possible that developing good social skills early on may reduce the likelihood of later emotional and behavioural problems.

Leisure time: Consistent with the existing literature, children who were reported to participate frequently in recreational activities were rated as more prosocially skilled by their parents. Recreational activities provide children with opportunities to engage in structured interaction with peers in an environment where cooperation is encouraged. This finding is important in the present analysis because involvement in activities significantly contributed in accounting for variation in parent ratings of children's prosocial skills over and above the contribution of factors such as parenting practices and the neighbourhood quality. The obvious implication for policy is to ensure that all children have the opportunity to participate in high quality recreational activities. This requires that barriers, such as cost and accessibility, need to be reduced.

Family support hypothesis: Several findings support the importance of family functioning and involvement in children's learning to the development of children's abilities, particularly academic and prosocial skills. The family functioning score was a significant predictor of parent rated prosocial skills and parental involvement in school was highly correlated with teacher ratings of children's prosocial skills. Teacher ratings of how well the child came prepared for school (an indicator of parental involvement in children's learning and family functioning assessed by questions asking if the child came to school without materials, inadequately clothed, tired, late, or without homework completed) was correlated (r=-.362) with teacher ratings of children's prosocial skills. Not only was this measure of parental involvement highly correlated with prosocial skills but it was also highly correlated teacher reported academic skills (r=-.677). The fact that the measure of academic skills was highly correlated with prosocial skills likely explains why the family measures were not significant in the final Teacher Sample 2 model. Relatively weak correlations between how well the child came prepared for school and parent reported measures of SES and relative affluence suggest that this is not solely a consequence of poverty but rather one of family functioning and values.

This finding has several implications for policy. First, parents need to be involved with their child's education and schools. Strategies to address this issue must be developed and could include public service messages highlighting the importance of parental involvement for children's academic and personal success. Other strategies could involve preparing teachers and schools to involve parents more. When this fails or is unsatisfactory, teachers may need to take further steps to ensure more family involvement such as identifying families that may benefit from family support or parent training and in-servicing. Second, given that there were only weak correlations between family involvement and measures of SES and relative affluence, programs that target at-risk families due to conditions of poverty are unlikely to address this issue and miss a substantial number of families that might benefit from support.

Parenting: Although there is substantial empirical support for the role of parents in the development of children's peer relations and social competence (Dekovic & Janssens, 1992; Pettit et al., 1991; Donovan et al., 1990; Stormshak et al., 2000), support for the role of parenting style as rated by parents and teacher ratings of children's prosocial skills in this study is weak. Parent ratings of parenting style were however, significant predictors of children's prosocial skills as rated by parents. Of the different parenting dimensions, the variable "positive interactions" was uniquely predictive of parent ratings of children's prosocial skills. Ineffective parenting strategies and punitive discipline, on the other hand were significantly correlated with parent reported behavioural difficulties and ineffective parenting also predicted parent rated prosocial skills. More work is required to examine the validity of parent reported measures of parenting style and behaviour. Further, examination of possible interactive effects involving gender (of both the parent and the child), cultural background, and SES might prove revealing.

A number of limitations in the present study must be identified. Weak correlations between parent and teacher ratings of children's prosocial skills raise concerns regarding the construct validity of either parent or teacher ratings of children's prosocial skills. Potential ambiguities in understanding the questions as well as the scale further confound interpretation of results. Some support for the validity of teacher ratings of children's prosocial skills is found in the research by Caprara and Pastorelli (1993). Concurrent validity between parent and teacher reports of children's prosocial behaviour were conducted against both parent and teacher forms of Achenbach and Edelbrook's Child Behaviour Check List (CBCL), and peer rated sociometric ratings. The sample included 390 seven to ten year old elementary school students in Italy. Teacher, but not parent, ratings of children's prosocial behaviour were significantly correlated (range r=.35 to r=.49) with the full and subscale measures of the teacher rated form of the CBCL. Neither parent nor teacher ratings of children's prosocial behaviour were correlated with any full or subscale measures of the parent rated form of the CBCL. Finally, teacher and not parent ratings of children's prosocial behaviour were significantly correlated with peer ratings of sociometric status. This was true for measures of popularity status, rejection status, and social preference. Further research is required to examine the validity of these instruments as measures of children's prosocial skill.

The development of particular scales, questions, and measures were not conducted by the current research team to answer specific hypotheses. Rather, a convenience sample of measures, derived from questions asked in the National Longitudinal Survey of Children and Youth (NLSCY), were selected to represent child, family, community and school level factors presumed to effect directly the development of prosocial skills. Further cross-validation of the dependent and independent measures as defined in this study is needed to verify their ability to capture important variability in their designated constructs.

Analyses presented above aimed at producing parsimonious models for predicting prosocial skills. A thorough examination of the unique contributions of particular variables as well as any comparisons regarding the relative importance of different variables requires a closer examination of the correlation tables and HLM models for each independent variable cluster. These analyses are essential in determining how much variance each cluster accounts for uniquely, which variables are significant within each cluster, and which variables no longer significantly predict prosocial skill performance and development when clusters are combined.

Also, while we included measures from different levels, only direct effects were assessed. Thus, it is possible that some measures that did not have significant direct effect on the dependent variables may still have significant indirect effects via one or more of the other dependent variables. While lack of examination of indirect effects in this study does not effect the interpretation of usefulness of different variables in predicting children's prosocial skills, it does limit the theoretical significance of the findings.

Appendix A

Table A1

Group Comparisons Between Parent Sample 1 and Excluded 7-year-old Cycle 1 Children

Measure	Group	N	Mean	SD	t-value
Prosocial Behaviour	Excluded PS2	747 836	12.74 12.51	3.83 3.74	1.22
Health	Excluded PS1	789 836	1.57 1.50	.75 .70	2.03*
Health History	Excluded PS1	789 836	1.19 1.12	.57 .41	2.77**
Looks forward to school	Excluded PS1	782 836	4.61 4.45	.82 .90	3.69***
School performance	Excluded PS1	776 836	1.62 1.83	.81 .88	-4.94***
Number of close friends	Excluded PS1	775 836	3.44 3.41	.93 .89	.55
Gets along with others	Excluded PS1	782 836	1.49 1.50	.73 .72	-.23
Gets along with teachers	Excluded PS1	780 836	1.27 1.33	.62 .67	-1.77
Gets along with parent	Excluded PS1	784 836	1.52 1.53	.72 .70	-.35
Affect	Excluded PS1	785 836	1.09 1.14	.32 .36	-2.57**
Hyperactivity	Excluded PS1	760 836	4.60 4.43	3.48 3.59	.94
Emotional Disorder	Excluded PS1	782 836	2.50 2.59	2.41 2.62	-.70
Aggression	Excluded PS1	768 836	1.44 1.35	1.94 1.87	1.03
Indirect Aggression	Excluded PS1	723 836	1.50 1.27	2.09 1.70	2.42*
Property Offence	Excluded PS1	782 836	.81 .75	1.18 1.17	1.12
Recreational activities	Excluded PS1	784 836	2.10 2.06	1.08 1.02	.87
Video Games	Excluded PS1	784 836	2.64 2.56	1.43 1.36	1.20
TV	Excluded PS1	731 836	1.78 1.76	0.93 .89	0.68
Does things with friends	Excluded PS1	775 836	3.62 3.72	1.15 1.12	-1.85
School Days missed	Excluded PS1	777 836	3.14 3.00	4.00 3.50	.75
PMK Age	Excluded PS1	807 836	35.31 35.31	5.40 5.01	.017
PMK Years of education	Excluded PS1	805 836	12.36 12.36	2.57 2.24	.03
Ratio of h/h income to low income cutoff	Excluded PS1	807 836	1,849.17 1,994.45	1,562.90 1,404.06	-1.98*

Table A1 (continued)

Group Comparisons Between Parent Sample 1 and Excluded 7-year-old Cycle 1 Children

Measure	Group	N	Mean	SD	t-value
Socio-economic status	Excluded	795	-.08	.82	-.40
	PS1	836	-.06	.77	
# siblings	Excluded	807	1.60	1.08	4.22***
	PS1	836	1.38	1.00	
Time in care	Excluded	782	5.45	12.34	.53
	PS1	836	5.14	11.54	
Crowded home	Excluded	803	1.42	.41	1.56
	PS1	836	1.39	.43	
Changed schools	Excluded	785	.42	.84	3.26**
	PS1	836	.29	.69	
Moved	Excluded	776	1.89	2.12	4.50***
	PS1	836	1.46	1.75	
PMK Health	Excluded	794	2.05	.84	2.37*
	PS1	836	1.95	.91	
PMK Depression	Excluded	779	4.71	5.10	-.81
	PS1	836	4.94	5.87	
Social Support	Excluded	781	14.27	2.84	-1.43
	PS1	836	14.47	2.88	
Health Utility Index	Excluded	807	1.22	1.46	4.89***
	PS1	836	.97	.06	
Positive Interactions	Excluded	783	12.48	2.80	-1.59
	PS1	836	12.70	2.72	
Ineffective Parenting	Excluded	763	8.71	3.85	-0.21
	PS1	836	8.75	3.64	
Consistency	Excluded	755	15.30	3.31	0.41
	PS1	836	15.23	3.44	
Punitive Discipline	Excluded	776	8.75	1.97	0.30
	PS1	836	8.72	2.07	
Family Functioning	Excluded	778	8.02	4.99	0.65
	PS1	836	7.86	5.27	
Read Together	Excluded	784	6.32	1.38	-2.61**
	PS1	836	6.49	1.11	
PMK hours worked	Excluded	802	22.71	19.16	0.94
	PS1	836	21.81	19.21	
Neighbourhood Safety	Excluded	774	4.21	1.27	-1.24
	PS1	836	4.30	1.36	
Neighbours	Excluded	693	10.41	2.82	-1.68
	PS1	836	10.65	2.82	
Neighbourhood Problems	Excluded	762	1.31	1.63	0.52
	PS1	836	1.27	1.55	
School climate (parent)	Excluded	730	6.27	1.77	1.44
	PS1	836	6.14	1.78	
Academic Expectations	Excluded	370	12.40	1.81	-.52
	PS1	399	12.47	2.24	
Participative School Environment	Excluded	371	19.04	4.56	-2.04*
	PS1	402	19.72	4.69	
Supportive School Environment	Excluded	373	13.52	4.45	
	PS1	396	14.30	4.30	-2.50*

Note: PS1=Parent Sample 1; PMK=Person Most Knowledgeable of the Child.
* implies significance at less than 10%
** implies significance at less than 5%
*** implies significance at less than 1%

Table A2

Group Comparisons Between Parent Sample 2 and Excluded 7-year-old Cycle 1 Children

Measure	Group	N	Mean	SD	t-value
Prosocial Behaviour	Excluded	1,249	12.56	3.82	-1.23
	PS2	334	12.85	3.64	
Health	Excluded	1,291	1.54	.72	.76
	PS2	334	1.51	.75	
Health History	Excluded	1,291	1.17	.52	1.36
	PS2	334	1.12	.39	
Looks forward to school	Excluded	1,284	4.53	.88	.10
	PS2	334	4.52	.78	
School performance	Excluded	1,278	1.73	.84	-.03
	PS2	334	1.73	.89	
Number of close friends	Excluded	1,277	3.42	.92	-.11
	PS2	334	3.43	.86	
Gets along with others	Excluded	1,284	1.49	.73	-.73
	PS2	334	1.52	.71	
Gets along with teachers	Excluded	1,283	1.29	.64	-.79
	PS2	334	1.32	.68	
Gets along with parent	Excluded	1,286	1.51	.69	-1.67
	PS2	334	1.59	.78	
Affect	Excluded	1,287	1.11	.34	-.27
	PS2	334	1.12	.35	
Hyperactivity	Excluded	1,263	4.51	3.46	.03
	PS2	334	4.51	3.81	
Emotional Disorder	Excluded	1,284	2.58	2.53	1.09
	PS2	334	2.42	2.48	
Aggression	Excluded	1,271	1.41	1.92	.54
	PS2	334	1.34	1.85	
Indirect Aggression	Excluded	1,225	1.42	1.94	1.78
	PS2	334	1.21	1.73	
Property Offence	Excluded	1,284	.80	1.15	1.62
	PS2	334	.68	1.26	
Recreational activities	Excluded	1,287	2.10	1.06	1.34
	PS2	334	2.01	1.00	
Video Games	Excluded	1,287	2.65	1.41	2.69**
	PS2	334	2.42	1.33	
TV	Excluded	1,234	1.76	.90	-0.06
	PS2	334	1.77	.93	
Does things with friends	Excluded	1,277	3.67	1.13	-.33
	PS2	334	3.69	1.15	
School Days missed	Excluded	1,279	3.04	3.87	-.58
	PS2	334	3.18	3.22	
PMK AGE	Excluded	1,309	35.25	5.23	-.93
	PS2	334	35.55	5.10	
PMK Years of education	Excluded	1,307	12.33	2.50	-1.00
	PS2	334	12.48	2.00	
Ratio of h/h income to low income cutoff	Excluded	1,309	1,844.29	1,479.43	-4.28***
	PS2	334	2,232.06	1,471.03	
Socio-economic status	Excluded	1,297	-.08	.81	-1.88*
	PS2	334	.01	.71	
# siblings	Excluded	1,309	1.51	1.05	1.70
	PS2	334	1.40	1.02	

Table A2 (continued)
Group Comparisons Between Parent Sample 2 and Excluded 7-year-old Cycle 1 Children

Measure	**Group**	**N**	**Mean**	**SD**	**t-value**
Time in care	Excluded	1,249	12.56	3.82	1.67
	PS2	334	12.85	3.64	
Crowded home	Excluded	1,305	1.42	.43	2.63**
	PS2	334	1.35	.36	
Changed schools	Excluded	1,287	.36	.79	1.26
	PS2	334	.31	.71	
Moved	Excluded	1,279	1.75	1.97	3.18**
	PS2	334	1.37	1.84	
PMK Health	Excluded	1,296	2.00	.87	.47
	PS2	334	1.98	.90	
PMK Depression	Excluded	1,281	4.89	5.54	.85
	PS2	334	4.60	5.42	
Social Support	Excluded	1,284	14.34	2.86	-.76
	PS2	334	14.48	2.88	
Health Utility Index	Excluded	1,309	1.12	1.15	2.40***
	PS2	334	.97	.06	
Positive Interactions	Excluded	1,285	12.53	2.78	-1.82
	PS2	334	12.84	2.71	
Ineffective Parenting	Excluded	1,265	8.71	3.75	-0.36
	PS2	334	8.80	3.71	
Consistency	Excluded	1,258	15.20	3.41	-1.52
	PS2	334	15.51	3.27	
Punitive Discipline	Excluded	1,279	8.68	2.04	-1.83
	PS2	334	8.91	1.94	
Family Functioning	Excluded	1,280	7.97	5.07	.57
	PS2	334	7.79	5.37	
Read together	Excluded	1,287	6.37	1.31	-2.36*
	PS2	334	6.55	0.96	
PMK hours worked	Excluded	1,304	21.93	19.42	-1.34
	PS2	334	23.51	17.35	
Neighbourhood Safety	Excluded	1,277	4.24	1.34	-1.12
	PS2	334	4.33	1.20	
Neighbours	Excluded	1,195	10.39	2.89	-4.06***
	PS2	334	11.09	2.48	
Neighbourhood Problems	Excluded	1,264	1.31	1.59	1.07
	PS2	334	1.20	1.59	
School climate (parent)	Excluded	1,232	6.23	1.79	.97
	PS2	334	6.12	1.72	

Note: PS2=Parent Sample 2; PMK=Person Most Knowledgeable of the Child.
* implies significance at less than 10%
** implies significance at less than 5%
*** implies significance at less than 1%

Table A3

Group Comparisons Between Teacher Sample 1 and Excluded 7-year-old Cycle 1 Children

Measure	Group	N	Mean	SD	t-value
Prosocial Behaviour	Excluded	1,188	12.55	3.86	-1.25
	TS1	395	12.83	3.54	
Health	Excluded	1,230	1.54	.73	.38
	TS1	395	1.52	.73	
Health History	Excluded	1,230	1.17	.52	1.48
	TS1	395	1.12	.40	
Looks forward to school	Excluded	1,223	4.53	.87	.46
	TS1	395	4.51	.83	
School performance	Excluded	1,217	1.69	.83	-2.99**
	TS1	395	1.84	.92	
Number of close friends	Excluded	1,216	3.43	.93	.42
	TS1	395	3.41	.84	
Gets along with others	Excluded	1,223	1.49	.74	-.88
	TS1	395	1.52	.68	
Gets along with teachers	Excluded	1,221	1.28	.64	-2.19*
	TS1	395	1.36	.69	
Gets along with parent	Excluded	1,225	1.53	.71	.12
	TS1	395	1.52	.71	
Affect	Excluded	1,226	1.12	.35	1.72
	TS1	395	1.09	.30	
Hyperactivity	Excluded	1,201	4.55	3.50	.80
	TS1	395	4.39	3.65	
Emotional Disorder	Excluded	1,223	2.58	2.54	.71
	TS1	395	2.47	2.46	
Aggression	Excluded	1,209	1.40	1.94	.37
	TS1	395	1.36	1.78	
Indirect Aggression	Excluded	1,164	1.39	1.96	.58
	TS1	395	1.33	1.68	
Property Offence	Excluded	1,223	.82	1.18	2.33*
	TS1	395	.66	1.15	
Recreational activities	Excluded	1,225	2.08	1.07	.36
	TS1	395	2.06	1.01	
Video Games	Excluded	1,225	2.61	1.40	.37
	TS1	395	2.58	1.38	
TV	Excluded	1,173	1.79	0.93	1.96*
	TS1	395	1.69	.83	
Does things with friends	Excluded	1,216	3.68	1.14	.62
	TS1	395	3.64	1.12	
School days missed	Excluded	1,218	3.11	3.87	.68
	TS1	395	2.96	3.34	
PMK age	Excluded	1,248	35.28	5.18	-.41
	TS1	395	35.40	5.28	
PMK Years of education	Excluded	1,246	12.28	2.47	-2.28*
	TS1	395	12.60	2.15	
Ratio of h/h income to low income cutoff	Excluded	1,248	1,857.17	1,549.83	-3.21**
	TS1	395	2,131.33	1,240.01	
Socio-economic status	Excluded	1,236	-.09	.80	-2.37*
	TS1	395	.02	.77	
# siblings	Excluded	1,248	1.52	1.04	1.96
	TS1	395	1.40	1.04	
Time in care	Excluded	1,223	5.44	12.1	0.90
	TS1	395	4.82	11.4	

Table A3 (continued)
Group Comparisons Between Teacher Sample 1 and Excluded 7-year-old Cycle 1 Children

Measure	Group	N	Mean	SD	t-value
Crowded home	Excluded	1,244	1.42	.43	3.23***
	TS1	395	1.34	.37	
Changed schools	Excluded	1,226	.36	.78	.44
	TS1	395	.34	.73	
Moved	Excluded	1,217	1.74	2.02	2.63**
	TS1	395	1.45	1.70	
PMK Health	Excluded	1,235	2.01	.86	.94
	TS1	395	1.96	.92	
PMK Depression	Excluded	1,220	5.00	5.60	2.24*
	TS1	395	4.29	5.22	
Social Support	Excluded	1,222	14.30	2.88	-1.85
	TS1	395	14.60	2.82	
Health Utility Index	Excluded	1,248	1.13	1.18	2.58***
	TS1	395	.97	.05	
Positive Interactions	Excluded	1,224	12.58	2.75	-0.52
	TS1	395	12.66	2.82	
Ineffective Parenting	Excluded	1,204	8.73	3.79	-0.04
	TS1	395	8.74	3.60	
Consistency	Excluded	1,197	15.26	3.46	-0.08
	TS1	395	15.27	3.16	
Punitive Discipline	Excluded	1,217	8.65	2.04	-2.90**
	TS1	395	8.99	1.92	
Family Functioning	Excluded	1,219	8.01	5.22	1.04
	TS1	395	7.70	4.87	
Read together	Excluded	1,225	6.35	1.31	-3.10***
	TS1	395	6.58	1.03	
PMK hours worked	Excluded	1,243	21.47	19.17	-2.93**
	TS1	395	24.70	19.03	
Neighbourhood Safety	Excluded	1,215	4.24	1.34	-0.90
	TS1	395	4.31	1.24	
Neighbours	Excluded	1,134	10.43	2.85	-2.59*
	TS1	395	10.86	2.70	
Neighbourhood Problems	Excluded	1,203	1.27	1.60	-0.70
	TS1	395	1.33	1.57	
School climate (parent)	Excluded	1,171	6.20	1.78	-.20
	TS1	395	6.22	1.76	
Academic Expectations	Excluded	478	12.41	1.99	-.49
	TS1	291	12.48	2.14	
Participative School Environment	Excluded	479	19.44	4.56	.36
	TS1	294	19.32	4.76	
Supportive School Environment	Excluded	478	13.81	4.48	-.93
	TS1	291	14.11	4.22	
Disciplinary Climate	Excluded	480	11.09	3.05	-1.48
	TS1	288	11.42	2.87	
Parent school involvement	Excluded	446	2.65	.53	-1.36
	TS1	277	2.71	.50	
Support for schooling	Excluded	472	2.67	2.97	1.72
	TS1	289	2.31	2.45	
Academic Skills (teacher)	Excluded	482	24.34	4.70	.52
	TS1	294	24.17	4.06	

Note: TS1=Teacher Sample 1; PMK=Person Most Knowledgeable of the Child.
* implies significance at less than 10%
** implies significance at less than 5%
*** implies significance at less than 1%

Table A4

Group Comparisons Between Teacher Sample 2 and Excluded 7-year-old Cycle 1 Children

Measure	Group	N	Mean	SD	t-value
Prosocial Behaviour	Excluded	1,341	12.58	3.79	-.10
	TS2	242	12.84	3.74	
Health	Excluded	1,383	1.53	.72	-.11
	TS2	242	1.54	.76	
Health History	Excluded	1,383	1.16	.51	.18
	TS2	242	1.15	.43	
Looks forward to school	Excluded	1,376	4.52	.88	-.53
	TS2	242	4.55	.74	
School performance	Excluded	1,370	1.72	.84	-1.11
	TS2	242	1.79	.92	
Number of close friends	Excluded	1,369	3.42	.92	-.14
	TS2	242	3.43	.87	
Gets along with others	Excluded	1,376	1.50	.74	.44
	TS2	242	1.48	.67	
Gets along with teachers	Excluded	1,375	1.29	.63	-1.80
	TS2	242	1.37	.73	
Gets along with parent	Excluded	1,378	1.53	.70	.33
	TS2	242	1.51	.75	
Affect	Excluded	1,379	1.12	.35	2.06*
	TS2	242	1.07	.28	
Hyperactivity	Excluded	1,354	4.58	3.52	1.73
	TS2	242	4.15	3.60	
Emotional Disorder	Excluded	1,376	2.58	2.56	1.32
	TS2	242	2.35	2.29	
Aggression	Excluded	1,363	1.41	1.93	1.12
	TS2	242	1.27	1.75	
Indirect Aggression	Excluded	1,317	1.41	1.94	1.40
	TS2	242	1.22	1.64	
Property Offence	Excluded	1,376	.80	1.14	1.79
	TS2	242	.65	1.21	
Recreational activities	Excluded	1,378	2.08	1.06	.32
	TS2	242	2.06	1.04	
Video Games	Excluded	1,378	2.61	1.40	.55
	TS2	242	2.55	1.34	
TV	Excluded	1,326	1.78	0.91	1.24
	TS2	242	1.70	.91	
Does things with friends	Excluded	1,369	3.67	1.14	.36
	TS2	242	3.65	1.12	
School Days missed	Excluded	1,371	3.05	3.83	-.41
	TS2	242	3.16	3.22	
PMK AGE	Excluded	1,401	35.22	5.17	-1.76
	TS2	242	35.86	5.36	
PMK Years of education	Excluded	1,399	12.31	2.45	-1.94
	TS2	242	12.63	2.11	
Ratio of h/h income to low income cutoff	Excluded	1,401	1,876.03	1,515.39	-3.10**
	TS2	242	2,195.58	1,267.98	
Socio-economic status	Excluded	1,389	-.08	.80	-2.02*
	TS2	242	.03	.75	
# siblings	Excluded	1,401	1.49	1.04	-.11
	TS2	242	1.50	1.09	

Table A4 (continued)
Group Comparisons Between Teacher Sample 2 and Excluded 7-year-old Cycle 1 Children

Measure	Group	N	Mean	SD	t-value
Time in care	Excluded	1,376	5.46	11.98	1.38
	TS2	242	4.31	11.63	
Crowded home	Excluded	1,397	1.42	.43	2.82**
	TS2	242	1.34	.36	
Changed schools	Excluded	1,379	.36	.79	1.36
	TS2	242	.29	.66	
Moved	Excluded	1,370	1.71	1.97	1.90*
	TS2	242	1.45	1.83	
PMK Health	Excluded	1,388	2.00	.86	.14
	TS2	242	1.99	.95	
PMK Depression	Excluded	1,373	4.89	5.52	1.06
	TS2	242	4.48	5.45	
Social Support	Excluded	1,376	14.34	2.86	-1.20
	TS2	242	14.58	2.85	
Health Utility Index	Excluded	1,401	1.11	1.12	1.90*
	TS2	242	.97	.06	
Positive Interactions	Excluded	1,377	12.55	2.75	-1.72
	TS2	242	12.88	2.85	
Ineffective Parenting	Excluded	1,357	8.76	3.77	0.71
	TS2	242	8.57	3.57	
Consistency	Excluded	1,350	15.24	3.40	-0.67
	TS2	242	15.40	3.32	
Punitive Discipline	Excluded	1,370	8.67	2.01	-2.67**
	TS2	242	9.05	2.02	
Family Functioning	Excluded	1,372	8.01	5.14	1.40
	TS2	242	7.51	5.11	
Read together	Excluded	1,378	6.38	1.29	-2.17**
	TS2	242	6.57	0.98	
PMK hours worked	Excluded	1,396	21.74	19.33	-2.57*
	TS2	242	25.16	18.07	
Neighbourhood Safety	Excluded	1,368	4.24	1.33	-1.10
	TS2	242	4.34	1.18	
Neighbours	Excluded	1,287	10.42	2.85	-3.96***
	TS2	242	11.20	2.53	
Neighbourhood Problems	Excluded	1,356	1.29	1.59	0.14
	TS2	242	1.27	1.61	
School climate (parent)	Excluded	1,324	6.24	1.79	2.08*
	TS2	242	5.98	1.72	
Academic Expectations	Excluded	527	12.32	2.05	-2.28*
	TS2	242	12.68	2.03	
Participative School Environment	Excluded	531	19.41	4.55	.19
	TS2	242	19.35	4.83	
Supportive School Environment	Excluded	527	13.84	4.39	-.74
	TS2	242	14.09	4.39	
Disciplinary Climate	Excluded	526	11.13	3.03	-1.08
	TS2	242	11.38	2.90	
Parent school involvement	Excluded	481	2.67	.52	-.61
	TS2	242	2.69	.51	
Academic Skills	Excluded	534	24.26	4.66	-.10
	TS2	242	24.30	4.02	
Support for schooling	Excluded	519	2.65	2.95	1.75
	TS2	242	2.27	2.39	

Note: TS2=Teacher Sample 2; PMK=Person Most Knowledgeable of the Child.
* implies significance at less than 10%
** implies significance at less than 5%
*** implies significance at less than 1%

Table A5
Group Comparisons Between Parent Sample 1 and Excluded 7-year-old Cycle 1 Children

	Parent Sample 1	Excluded	DF (N)	Chi-Square
Gender				
Female	433 (51.8%)	360 (44.6%)	1	8.49***
Male	403 (48.2%)	447 (55.4%)		
Physical Condition				
No	613 (73.2%)	549 (70%)	1	2.06
Yes	224 (26.8%)	235 (30%)		
Mental Condition				
No	795 (95.1%)	360 (44.6%)	1	2.57
Yes	41 (4.9%)	447 (55.4%)		
Special Education				
No	783 (93.6%)	549 (70%)	1	.03
Yes	53 (6.4%)	235 (30%)		
Junior Kindergarten				
No	394 (47.1%)	361 (46.7%)	1	.03
Yes	442 (52.9%)	412 (53.3%)		
PMK Gender				
Female	777 (92.9%)	707 (87.6%)	1	13.37***
Male	59 (7.1%)	100 (12.4%)		
Single Parent				
2 Parents	735 (87.8%)	660 (81.8%)	1	13.02**
1 Parent	147 (18.2%)	101 (12.1%)		
City Size				
500,000 and up	372 (44.5%)	393 (48.8%)	5	5.10
100,000-500,000	140 (16.7%)	121 (15.0%)		
30,000-100,000	68 (8.1%)	51 (6.3%)		
15,000-30,000	32 (3.8%)	24 (3.0%)		
Less than 15,000	63 (7.5%)	61 (7.6%)		
Rural area	161 (19.3%)	156 (19.4%)		

* implies significance at less than 10%
** implies significance at less than 5%
*** implies significance at less than 1%

Table A6

Group Comparisons Between Parent Sample 2 and Excluded 7-year-old Cycle 1 Children

	Parent Sample 2	Excluded	DF (N)	Chi-Square
Gender				
Female	186 (55.7%)	664 (50.7%)	1	2.62
Male	148 (44.3%)	645 (49.3%)		
Physical Condition				
No	259 (77.5%)	903 (70.2%)	1	7.02**
Yes	75 (22.5%)	383 (29.8%)		
Mental Condition				
No	313 (93.7%)	1,240 (96.4%)	1	4.91*
Yes	21 (6.3%)	46 (3.6%)		
Special Education				
No	310 (92.8%)	1,205 (93.9%)	1	.55
Yes	24 (7.2%)	78 (6.1%)		
Junior Kindergarten				
No	126 (37.7%)	629 (49.3%)	1	14.32***
Yes	208 (62.3%)	646 (50.7%)		
PMK Gender				
Female	310 (92.8%)	1,174 (89.7%)	1	2.98
Male	24 (7.2%)	135 (10.3%)		
Single Parent				
2 Parents	300 (89.8%)	1,095 (83.7%)	1	12.52**
1 Parent	33 (9.9%)	214 (16.3%)		
City Size				
500,000 and up	125 (37.4%)	640 (48.9%)	5	22.60***
100,000-500,000	58 (17.4%)	203 (15.5%)		
30,000-100,000	31 (9.3%)	87 (6.7%)		
15,000-30,000	21 (6.3%)	35 (2.7%)		
Less than 15,000	31 (9.3%)	94 (7.2%)		
Rural area	68 (20.4%)	249 (19.0%)		

* implies significance at less than 10%
** implies significance at less than 5%
*** implies significance at less than 1%

Table A7
Group Comparisons Between Teacher Sample 1 and Excluded 7-year-old Cycle 1 Children

	Teacher Sample 1	Excluded	DF (N)	Chi-Square
Gender				
Female	217 (54.8%)	633 (50.8%)	1	1.96
Male	179 (45.2%)	614 (49.2%)		
Physical Condition				
No	278 (70.4%)	884 (72.1%)	1	0.44
Yes	117 (29.6%)	342 (27.9%)		
Mental Condition				
No	374 (94.7%)	1,179 (96.2%)	1	1.63
Yes	21 (5.3%)	47 (3.8%)		
Special Education				
No	369 (93.4%)	1,145 (93.7%)	1	.04
Yes	26 (6.6%)	77 (6.3%)		
Junior Kindergarten				
No	188 (47.5%)	567 (46.7%)	1	.06
Yes	208 (52.5%)	646 (53.3%)		
PMK Gender				
Female	375 (94.9%)	1,109 (88.9%)	1	12.67***
Male	20 (5.1%)	139 (11.1%)		
Single Parent				
2 Parents	346 (87.4%)	1,049 (84.1%)	1	6.08*
1 Parent	49 (12.4%)	199 (15.9%)		
City Size				
500,000 and up	134 (33.8%)	631 (50.6%)	5	38.30***
100,000-500,000	78 (19.7%)	183 (14.7%)		
30,000-100,000	40 (10.1%)	79 (6.3%)		
15,000-30,000	21 (5.3%)	36 (2.9%)		
Less than 15,000	39 (9.8%)	86 (6.9%)		
Rural area	84 (21.2%)	233 (18.7%)		

* implies significance at less than 10%
** implies significance at less than 5%
*** implies significance at less than 1%

Table A8
Group Comparisons Between Teacher Sample 2 and Excluded 7-year-old Cycle 1 Children

	Teacher Sample 2		Excluded		DF (N)	Chi-Square
Gender						
Female	137	(56.6%)	713	(50.9%)	1	2.7
Male	105	(43.6%)	688	(49.1%)		
Physical Condition						
No	185	(76.4%)	977	(70.8%)	1	3.18
Yes	57	(23.6%)	402	(29.2%)		
Mental Condition						
No	225	(93.0%)	1,328	(96.3%)	1	5.67*
Yes	17	(7%)	51	(3.7%)		
Special Education						
No	222	(91.7%)	1,292	(94.0%)	1	1.36
Yes	20	(8.3%)	83	(6.0%)		
Junior Kindergarten						
No	104	(43.0%)	651	(47.6%)	1	1.78
Yes	138	(57.0%)	716	(52.4%)		
PMK Gender						
Female	227	(93.8%)	1,257	(89.7%)	1	3.93*
Male	15	(6.2%)	144	(10.3%)		
Single Parent						
2 Parents	217	(89.3%)	1,179	(84.2%)	1	10.67**
1 Parent	25	(10.3%)	222	(15.8%)		
City Size						
500,000 and up	79	(32.8%)	686	(49.0%)	5	31.87***
100,000-500,000	50	(20.7%)	211	(15.1%)		
30,000-100,000	22	(9.1%)	96	(6.9%)		
15,000-30,000	18	(7.5%)	39	(2.8%)		
Less than 15,000	23	(9.5%)	101	(7.2%)		
Rural area	49	(20.3%)	268	(19.1%)		

* implies significance at less than 10%
** implies significance at less than 5%
*** implies significance at less than 1%

Appendix B

Table B1

Zero-order Correlations Between Independent and Dependent Variables in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	PPS	TPS	1.1.	1.1.1	1.1.2	1.2.1	1.2.2	1.2.3	1.3.1	1.3.2	1.3.3	1.4.2
Parent rated Prosocial Skills (PPS)	1	.259	-.163	-.174	-.091	-.079	.050	-.024	.116	-.101	.065	.157
Teacher rated Prosocial Skills (TPS)	.188	1	-.281	-.041	-.035	-.024	-.152	.017	.137	-.250	.514	.034
1.1 Gender	-.144	-.304	1	-.061	-.061	-.002	.019	-.004	-.159	.035	-.286	-.095
1.1.1 Health	-.157	-.080	-.029	1	.419	.293	.122	-.146	.008	.160	-.020	.118
1.1.2 Health history	-.074	-.047	-.037	.470	1	.193	.040	-.031	.018	-.041	.043	.001
1.2.1 Physical condition	.05	-.074	.059	.205	.154	1	.135	-.110	-.083	.039	-.024	-.141
1.2.2 Mental condition	.004	-.144	.040	.113	.024	.029	1	-.531	-.032	.291	-.110	-.173
1.2.3 Special education	.061	.034	-.024	-.177	-.072	-.035	-.396	1	.029	-.348	.149	.115
1.3.1 Looks forward to school	.188	.117	-.068	-.067	-.078	-.014	-.005	.028	1	-.176	.158	.170
1.3.2 School performance	-.170	-.244	.067	.237	.085	.010	.209	-.363	-.162	1	-.450	-.012
1.3.3 Academic Skills											1	.089
1.4.2 # of close friends	.142	.032	-.051	-.008	-.061	-.05	-.79	.084	.031	-.032	.073	1
1.4.3 Gets along with others	-.126	-.168	-.035	.077	.121	.081	.125	-.062	-.081	.130	-.219	-.165
1.4.4 Gets along with teacher	-.210	-.324	.055	.104	.081	.024	.102	-.164	-.152	.323	-.219	-.058
1.4.5 Gets along with parent	-.162	-.180	.029	.136	.099	.093	.141	.003	-.063	.157	-.087	-.149
1.5.1 Affect	-.242	-.279	-.026	.092	.091	.053	.074	-.001	-.175	.098	-.115	-.035
1.5.2 Hyperactivity	-.191	-.269	.190	.106	.114	.066	.222	-.125	-.253	.310	-.460	-.168
1.5.3 Emotional disorder	-.149	-.138	.004	.079	.202	.094	.133	-.058	-.081	.134	-.128	-.226
1.5.4 Aggression	-.133	-.210	.179	.110	.062	.199	.202	-.047	-.131	.154	-.287	-.136
1.5.5 Indirect aggression	-.044	-.144	-.027	.051	.038	.091	.092	.033	-.098	.100	-.170	-.070
1.5.6 Property offence	-.165	-.180	.109	.117	.082	.119	.246	-.084	-.047	.185	-.175	-.237
1.6.1 Junior Kindergarten	-.046	.020	-.020	.001	-.007	.036	.018	.024	-.053	-.099	.109	-.007
1.6.2 Recreational Activities	-.089	-.020	-.189	.061	.061	-.063	.026	-.007	-.119	.138	-.071	-.055
1.6.3 Video Games	.073	.213	-.193	-.127	-.048	-.102	-.021	.024	-.027	-.054	.042	.047
1.6.4 TV	-.127	-.006	.062	.146	.052	.048	-.072	.014	.011	.062	-.024	-.090
1.6.5 Does things with friends	-.025	-.070	.063	-.052	-.023	-.001	.062	.002	.033	.007	.010	.042

Table B1 (continued)

Zero-order Correlations Between Independent and Dependent Variables in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	PPS	TPS	1.1.	1.1.1	1.1.2	1.2.1	1.2.2	1.2.3	1.3.1	1.3.2	1.3.3	1.4.2
1.7.1 School days missed	-.007	-.080	.016	.178	.227	.045	.081	-.163	-.020	.114	-.191	-.071
2.1.1 PMK Age	-.017	.095	.017	-.043	-.121	.007	-.080	-.022	.059	.021	.032	.139
2.1.2 PMK Gender	-.085	.048	.030	.099	.025	.111	-.039	-.021	.043	-.062	.073	.036
2.1.3 PMK Years of education	.137	.115	-.033	-.157	-.073	.011	-.052	-.028	.027	-.091	.091	.155
2.2.2 Ratio h/h LICO	.039	.251	-.085	-.156	-.056	-.047	-.048	-.004	.050	-.073	.144	.097
2.2.3 SES	.129	.185	-.033	-.169	-.076	-.007	-.067	-.046	.078	-.095	.098	.109
2.3.1 Single parent status	-.083	-.128	.018	.053	.035	.099	.098	-.044	-.015	.133	-.168	-.112
2.3.2 # Siblings	.016	.089	.049	-.035	-.055	.010	-.088	.074	-.111	.065	-.019	.059
2.3.4 Time in care	-.121	-.049	.011	-.008	-.032	.048	-.011	.023	.071	-.133	.004	.115
2.4.1 Crowded home	.094	.009	.179	-.031	-.050	-.083	-.047	.025	-.012	.178	-.276	.066
2.4.3 Changed School	-.043	-.139	-.012	.033	-.051	.001	.204	-.085	-.028	.123	-.152	-.092
2.4.4 Moves	-.083	-.186	.030	.072	.047	.057	.268	-.120	-.026	.086	-.025	-.020
2.5.1 PMK Health	.013	-.107	-.018	.303	.162	.132	.022	.023	.013	-.040	-.067	.093
2.5.2 PMK Depression	-.006	-.060	.026	.071	.060	.077	.106	-.003	.031	-.006	-.011	-.116
2.6.1 Social Support	.180	.046	-.061	-.148	-.063	.003	-.020	-.045	.027	-.091	.091	.104
2.6.2 Health Utility Index	.235	.242	.013	-.191	-.173	-.098	-.213	.158	.201	-.232	.203	.027
2.7.1 Positive Interactions	.279	.013	.069	-.048	-.069	.008	.024	-.095	.068	-.099	.003	.141
2.7.2 Ineffective Parenting	-.201	-.126	.041	.087	.123	.067	.124	-.039	-.168	.125	-.224	-.203
2.7.3 Consistency	.149	.062	.123	-.194	-.066	-.043	-.021	.094	.126	-.135	.069	.034
2.7.4 Punitive Discipline	-.233	-.053	-.018	.116	.113	.046	.130	-.071	-.115	.161	-.054	-.117
2.8.1 Family Functioning	-.211	-.130	-.084	.207	.051	.024	.043	.025	-.076	.080	-.007	-.036
2.9.1 Read together	.127	.014	-.144	.020	-.086	.098	.022	-.029	.008	-.014	.064	.055
2.9.2 Parent School Involvement												
2.9.3 Support of schooling												
2.9.4 PMK Hours worked	-.027	.129	-.144	.036	.054	.060	-.032	.020	-.080	.035	.078	.048
3.1.1 Neighbourhood Safety	.001	-.015	.180	-.120	-.031	.011	.020	-.008	.101	-.042	-.017	-.016
3.1.2 Neighbours	.242	.100	.110	-.207	-.058	-.042	-.024	.032	.237	-.080	.078	.079
3.1.3 Neighbourhood Problems	-.027	.056	-.055	.035	.078	-.009	.024	-.048	-.084	.066	.012	-.099
3.1.4 City Size	-.032	.069	-.011	.069	.044	.008	.008	.003	.027	-.033	-.028	.017
4.1.1 School Climate	-.085	-.070	.008	.229	.140	.034	-.032	-.034	-.065	.107	-.076	-.152

Table B1 (continued)
Zero-order Correlations Between Independent and Dependent Variables in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	1.4.3	**1.4.4**	**1.4.5**	**1.5.1**	**1.5.2**	**1.5.3**	**1.5.4.**	**1.5.5**	**1.5.6**	**1.6.1**	**1.6.2**	**1.6.3**
Parent rated Prosocial Skills (PPS)	-.208	-.215	-.224	-.113	-.239	-.187	-.222	-.111	-.247	-.111	-.046	.024
Teacher rated Prosocial Skills (TPS)	-.171	-.335	-.214	-.257	-.311	-.160	-.250	-.199	-.206	.060	-.010	.204
1.1 Gender	-.040	-.010	.006	-.085	.268	-.011	.208	-.016	.150	.084	-.118	-.165
1.1.1 Health	.002	.096	.093	.038	.035	-.005	.056	.078	.046	.073	.008	-.087
1.1.2 Health history	.032	.030	-.014	.050	.076	.066	-.017	-.014	-.005	.053	-.028	.024
1.2.1 Physical condition	.069	-.026	.121	.122	.037	.101	.220	.109	.117	.066	-.085	.005
1.2.2 Mental condition	.207	.121	.164	.164	.269	153	.209	.159	.271	-.045	.017	-.109
1.2.3 Special education	-.070	-.066	.070	.010	-.153	.018	.003	.006	-.080	-.024	-.036	.016
1.3.1 Looks forward to school	-.109	-.090	-.074	-.096	-.186	-.132	-.196	-.068	-.069	.032	-.062	-.048
1.3.2 School performance	.220	.359	.112	.098	.289	.118	.112	.095	.164	-.037	.163	.049
1.3.3 Academic Skills	-.246	-.197	-.086	-.184	-.449	-.107	-.255	-.140	-.138	.10	-.085	.068
1.4.2 # of close friends	-.174	.044	-.101	-.055	-.150	-.159	-.161	.006	-.138	-.062	-.031	-.041
1.4.3 Gets along with others	1	.341	.472	.273	.386	.442	.415	.365	.436	-.109	.028	.007
1.4.4 Gets along with teacher	.409	1	.188	.037	.207	.158	.169	.155	.196	-.066	.086	-.078
1.4.5 Gets along with parent	.448	.301	1	.311	.341	.454	.444	.382	.530	.044	-.076	-.003
1.5.1 Affect	.215	.108	.209	1	.222	.451	.302	.227	.263	-.073	.053	-.086
1.5.2 Hyperactivity	.377	.279	.356	.176	1	.426	.496	.293	.403	.071	.010	-.047
1.5.3 Emotional disorder	.392	.234	.421	.365	.455	1	.526	.408	.468	-.001	.192	.064
1.5.4 Aggression	.398	.256	.460	.189	.495	.517	1	.545	.599	.032	.077	-.036
1.5.5 Indirect aggression	.395	.199	.324	.123	.385	.434	.556	1	.459	.038	-.010	-.039
1.5.6 Property offence	.313	.190	.465	.193	.433	.439	.607	.473	1	.044	.002	-.029
1.6.1 Junior Kindergarten	.058	-.011	-.035	-.005	.014	-.037	-.041	.012	-.010	1	-.011	.091
1.6.2 Recreational Activities	.014	.055	-.042	.159	.072	.121	.014	.010	.085	.029	1	.180
1.6.3 Video Games	.014	-.063	-.018	-.062	-.073	-.009	-.059	-.037	-.039	.102	.112	1
1.6.4 TV	.087	.001	.153	.038	.117	.103	.056	.126	.159	-.096	-.043	-.187
1.6.5 Does things with friends	-.075	-.095	-.045	.015	.024	-.044	.049	-.063	.031	.029	-.034	-.087
1.7.1 School days missed	.046	.155	.065	-.064	.045	.074	.030	-.028	.028	-.094	-.015	-.059
2.1.1 PMK Age	-.134	-.025	-.111	-.123	-.135	-.163	-.068	-.071	-.163	-.076	-.049	-.014
2.1.2 PMK Gender	.078	-.026	-.022	-.009	.003	.056	-.036	.052	-.050	.002	-.077	.012
2.1.3 PMK Years of education	-.053	-.001	-.057	-.135	-.148	-.100	-.027	-.091	-.151	-.078	-.110	.028

Table B1 (continued)

Zero-order Correlations Between Independent and Dependent Variables
in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	1.4.3	1.4.4	1.4.5	1.5.1	1.5.2	1.5.3	1.5.4.	1.5.5	1.5.6	1.6.1	1.6.2	1.6.3
2.2.2 Ratio h/h LICO	-.073	-.084	-.147	-.154	-.123	-.127	-.101	-.124	-.142	-.136	-.105	-.041
2.2.3 SES	-.110	-.059	-.132	-.181	-.180	-.143	-.082	-.156	-.209	-.163	-.158	.005
2.3.1 Single parent status	.175	.202	.192	.106	.195	.217	.172	.209	.249	.094	.096	.010
2.3.2 # Siblings	-.070	-.061	-.101	.038	-.077	-.036	.003	.003	-.086	-.005	-.002	.060
2.3.4 Time in all care arrangements	.056	.093	-.015	-.006	.057	-.054	.009	.034	.044	.047	-.021	-.038
2.4.1 Crowded home	-.125	-.167	-.121	-.049	-.062	-.068	-.072	-.072	-.089	.072	-.011	.070
2.4.3 Changed School	.041	.029	.099	.072	.102	.134	.092	.172	.168	-.100	.076	-.015
2.4.4 Moves	.135	.108	.121	.202	.167	.248	.159	.176	.224	.051	.033	-.009
2.5.1 PMK Health	.065	.157	.087	.050	.052	.086	.097	.056	.094	.091	.089	-.028
2.5.2 PMK Depression	.122	.057	.119	.147	.111	.274	.173	.136	.211	.135	.139	.051
2.6.1 Social Support	-.100	-.009	-.055	-.128	-.112	-.109	-.050	-.076	-.069	-.126	-.157	-.038
2.6.2 Health Utility Index	-.255	-.162	-.207	-.627	-.290	-.344	-.228	-.163	-.243	-.030	-.191	-.001
2.7.1 Positive Interactions	-.190	-.139	-.235	-.065	-.151	-.166	-.143	-.184	-.168	-.079	-.136	-.003
2.7.2 Ineffective Parenting	.321	.209	.472	.162	.472	.453	.479	.348	.419	-.035	.011	-.027
2.7.3 Consistency	-.060	-.151	-.085	-.115	-.190	-.097	-.103	-.157	-.177	-.052	-.169	-.008
2.7.4 Punitive Discipline	.251	.178	.331	.113	.331	.256	.272	.239	.264	-.020	.084	.076
2.8.1 Family Functioning	.192	.095	.122	.188	.142	.162	.082	.153	.141	.110	.223	.041
2.9.1 Read together	-.093	-.047	-.114	-.061	-.103	-.120	-.039	-.053	-.079	-.025	-.022	.063
2.9.2 Parent School Involvement												
2.9.3 Support of schooling												
2.9.4 PMK Hours worked	.085	.065	.012	-.077	.029	.041	.042	.117	.013	.033	-.070	-.147
3.1.1 Neighbourhood Safety	-.031	-.055	-.077	-.168	.027	-.067	-.014	-.028	-.048	-.025	-.281	-.019
3.1.2 Neighbours	-.123	-.099	-.063	-.239	-.097	-.085	-.060	-.038	-.084	-.117	-.248	.069
3.1.3 Neighbourhood Problems	.063	.020	.075	.088	.070	.201	.100	.074	.107	-.052	.064	-.025
3.1.4 City Size	.033	-.064	.048	.002	.076	.053	.087	.105	.079	.073	-.035	.013
4.1.1 School Climate	.150	.190	.157	-.005	.159	.097	.068	.089	.109	-.039	.107	-.130
4.1.2 Academic Expectations												
4.1.3 Participative Environment												
4.1.4 Supportive Environment												
4.1.5 Disciplinary Climate												

Table B1 (continued)
Zero-order Correlations Between Independent and Dependent Variables in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	1.6.4	1.6.5	1.7.1	2.1.1	2.1.2	2.1.3	2.2.2	2.2.3	2.3.1	2.3.2	2.3.4	2.4.1
Parent rated Prosocial Skills (PPS)	-.122	-.074	.056	-.077	-.069	.170	.160	.197	-.146	-.050	-.073	.017
Teacher rated Prosocial Skills (TPS)	.021	-.066	-.102	.050	.042	.114	.246	.172	-.106	.077	-.066	-.027
1.1 Gender	-.063	.108	-.066	-.115	-.008	-.109	-.146	-.162	.132	-.007	-.008	.217
1.1.1 Health	.219	.003	.147	.068	.151	-.124	-.199	-.209	.188	.017	.013	-.005
1.1.2 Health history	.073	-.022	.143	-.080	-.022	-.035	-.047	-.043	-.078	-.078	-.036	-.022
1.2.1 Physical condition	.136	.046	.097	-.055	.207	-.074	-.104	-.085	.096	.065	-.019	-.048
1.2.2 Mental condition	-.030	.142	.076	-.055	-.019	-.105	-.065	-.138	.130	-.103	.023	-.047
1.2.3 Special education	.033	-.114	-.001	-.093	-.084	.005	-.002	.004	-.031	.095	-.005	.034
1.3.1 Looks forward to school	-.094	-.041	-.013	.072	-.053	-.032	.105	.058	-.021	.051	.021	.015
1.3.2 School performance	-.013	.005	.049	.092	.054	-.087	-.095	-.144	.108	.111	.051	-.101
1.3.3 Academic Skills	-.029	-.046	-.161	.074	.053	.153	.174	.133	-.098	.001	.001	-.024
1.4.2 # of close friends	-.008	-.024	-.006	.030	.111	.047	-.016	-.018	-.075	-.041	-.005	-.029
1.4.3 Gets along with others	.200	-.065	.097	-.152	-.105	-.045	-.074	-.100	.065	.018	.080	-.078
1.4.4 Gets along with teacher	-.010	-.030	.100	.202	-.050	.004	-.052	-.073	.085	.018	.219	-.125
1.4.5 Gets along with parent	.183	.021	.008	-.059	-.004	-.110	-.172	-.221	.228	-.080	.056	-.036
1.5.1 Affect	.085	.037	-.082	-.174	.061	-.086	-.153	-.148	.040	-.042	-.100	-.089
1.5.2 Hyperactivity	.030	.196	.032	-.126	.006	-.150	-.164	-.183	.163	-.090	.069	.124
1.5.3 Emotional disorder	.130	-.024	.031	-.170	.047	-.098	-.127	-.191	.125	-.046	-.026	-.036
1.5.4 Aggression	.036	.120	.040	-.150	-.038	-.140	-.151	-.210	.078	.056	-.028	.093
1.5.5 Indirect aggression	.131	-.023	-.047	-.095	.052	-.116	-.191	-.240	.158	.023	.048	-.019
1.5.6 Property offence	.114	.100	.068	-.216	-.037	-.186	-.106	-.257	.243	-.085	.123	-.077
1.6.1 Junior Kindergarten	-.067	.113	-.086	-.104	-.062	-.012	-.141	-.095	.134	.017	.080	.048
1.6.2 Recreational Activities	-.124	-.096	.066	.051	-.037	-.064	-.023	-.075	.030	-.045	.043	-.109
1.6.3 Video Games	-.091	-.064	-.112	.014	-.030	.112	.054	.084	.043	.007	-.101	-.062
1.6.4 TV	1	-.057	.047	-.089	.222	-.047	-.059	-.087	.038	.003	.001	-.065
1.6.5 Does things with friends	.034	1	-.002	-.050	-.043	-.102	-.095	-.058	-.029	-.025	-.029	.170
1.7.1 School days missed	.058	-.023	1	.017	-.100	.030	.008	.008	.064	-.081	.021	-.099
2.1.1 PMK Age	-.078	-.043	-.060	1	.117	.240	.154	.296	-.010	.193	.020	-.061
2.1.2 PMK Gender	.079	-.012	-.058	.109	1	-.064	-.028	-.076	.007	-.053	-.033	.085
2.1.3 PMK Years of education	-.183	-.014	-.015	.354	-.006	1	.431	.786	-.185	.117	.069	-.061

Table B1 (continued)

Zero-order Correlations Between Independent and Dependent Variables
in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	1.6.4	1.6.5	1.7.1	2.1.1	2.1.2	2.1.3	2.2.2	2.2.3	2.3.1	2.3.2	2.3.4	2.4.1
2.2.2 Ratio h/h LICO	-.105	-.026	.007	.277	.074	.465	1	.628	-.260	-.107	.063	-.156
2.2.3 SES	-.193	-.008	.001	.389	.019	.826	.639	1	-.331	.164	.033	-.039
2.3.1 Single parent status	.032	-.053	.069	-.047	-.024	-.165	-.252	-.315	1	-.164	.185	-.258
2.3.2 # Siblings	.071	-.036	-.116	.187	-.067	.009	-.119	.057	-.129	1	-.153	.295
2.3.4 Time in all care arrangements	-.063	.001	-.069	.029	.084	.086	.159	.083	.089	-.137	1	.005
2.4.1 Crowded home	-.006	.040	-.055	.045	.031	-.090	-.234	-.099	-.213	.493	-.086	1
2.4.3 Changed School	.083	.047	.116	-.139	-.080	-.130	-.106	-.143	.208	.032	-.064	-.025
2.4.4 Moves	.023	.053	.073	-.340	-.057	-.206	-.203	-.260	.257	-.063	.027	-.052
2.5.1 PMK Health	.034	-.043	.034	.050	.034	-.195	-.194	-.241	.145	.044	.021	.159
2.5.2 PMK Depression	.060	-.034	.010	-.018	-.008	-.182	-.222	-.259	.315	.092	-.057	.164
2.6.1 Social Support	-.044	.018	.040	.054	-.116	.345	.259	.350	-.140	.002	.078	-.127
2.6.2 Health Utility Index	-.092	.020	.009	.168	-.019	.205	.199	.259	-.160	.026	-.022	.083
2.7.1 Positive Interactions	-.130	.080	.088	.033	.027	.121	.035	.100	-.075	-.070	-.117	.063
2.7.2 Ineffective Parenting	.093	-.013	.056	-.137	-.116	-.071	-.097	-.086	.101	-.033	-.004	-.121
2.7.3 Consistency	-.149	.050	-.048	.118	-.020	.239	.183	.272	-.088	.130	-.080	.090
2.7.4 Punitive Discipline	.163	-.019	-.022	-.116	-.048	-.114	-.102	-.113	.041	.013	-.010	-.131
2.8.1 Family Functioning	.078	-.055	-.019	-.027	.098	-.299	-.224	-.368	.188	-.030	.066	.020
2.9.1 Read together	-.239	.012	.036	.067	-.058	.119	.104	.149	-.050	-.122	-.030	-.102
2.9.2 Parent School Involvement												
2.9.3 Support of schooling												
2.9.4 PMK Hours worked	.030	-.046	-.053	.140	.244	.252	.325	.259	.001	-.121	.313	-.206
3.1.1 Neighbourhood Safety	.046	.080	.063	.020	.102	.096	.161	.149	-.075	-.030	.001	-.093
3.1.2 Neighbours	-.013	-.026	.054	.132	-.019	.233	.189	.277	-.150	.109	-.029	.045
3.1.3 Neighbourhood Problems	-.061	-.016	.035	-.002	-.120	-.019	-.119	-.083	.146	-.001	-.039	.064
3.1.4 City Size	.044	-.019	.019	-.132	-.009	-.137	.029	-.187	.006	.031	-.076	-.066
4.1.1 School Climate	.084	-.010	.049	-.058	.003	-.129	-.084	-.138	.112	-.111	-.064	-.089
4.1.2 Academic Expectations												
4.1.3 Participative Environment												
4.1.4 Supportive Environment												
4.1.5 Disciplinary Climate												

Table B1 (continued)
Zero-order Correlations Between Independent and Dependent Variables in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	2.4.3	**2.4.4**	**2.5.1**	**2.5.2**	**2.6.1**	**2.6.2**	**2.7.1**	**2.7.2**	**2.7.3**	**2.7.4**	**2.8.1**	**2.9.1**
Parent rated Prosocial Skills (PPS)	-.114	-.101	-.176	-.121	.218	.197	.329	-.322	.111	-.344	-.288	.111
Teacher rated Prosocial Skills (TPS)	-.146	-.175	-.115	-.080	.018	.248	.066	-.165	.040	-.079	-.138	.012
1.1 Gender	.088	.035	.030	-.057	-.061	-.049	.115	.089	.106	.009	-.026	-.087
1.1.1 Health	.031	.073	.365	.194	-.135	-.137	-.042	-.001	-.185	.119	.245	.015
1.1.2 Health history	-.013	.012	.092	-.037	-.052	-.103	-.077	.073	-.044	.059	.051	-.006
1.2.1 Physical condition	.125	.099	.125	.148	-.035	-.167	.073	.057	-.117	.057	.080	.070
1.2.2 Mental condition	.310	.335	.022	.037	.038	-.202	.130	.097	-.140	.139	.022	-.005
1.2.3 Special education	-.112	-.133	.038	-.044	-.013	.099	-.085	-.041	.154	-.081	-.072	-.023
1.3.1 Looks forward to school	-.058	.017	-.047	.012	-.056	.094	.000	-.116	.036	-.043	.052	.032
1.3.2 School performance	.260	.194	.024	.043	.055	-.201	-.052	.138	-.153	.205	.094	-.089
1.3.3 Academic Skills	-.276	-.139	-.003	-.026	-.003	.240	-.014	-.241	.038	-.083	-.017	.037
1.4.2 # of close friends	-.158	-.001	.061	-.133	.105	.100	.147	-.254	-.023	-.094	-.042	.119
1.4.3 Gets along with others	.124	.185	.028	.168	-.062	-.274	-.184	.410	-.056	.253	.233	-.083
1.4.4 Gets along with teacher	.038	.043	.172	.067	.034	-.062	-.178	.184	-.227	.142	.183	-.013
1.4.5 Gets along with parent	.180	.191	.111	.136	-.087	-.255	-.167	.469	-.060	.291	.186	-.118
1.5.1 Affect	.126	.275	.038	.123	-.077	-.567	-.022	.237	-.042	.063	.166	-.025
1.5.2 Hyperactivity	.119	.166	.045	.090	-.105	-.255	-.060	.461	-.131	.248	.082	-.117
1.5.3 Emotional disorder	.160	.313	.119	.244	-.118	-.368	-.114	.462	-.086	.229	.250	-.110
1.5.4 Aggression	.129	.188	.162	.212	-.120	-.327	-.139	.501	-.144	.311	.129	-.032
1.5.5 Indirect aggression	.163	.249	.145	.102	-.074	-.230	-.138	.327	-.173	.193	.163	-.022
1.5.6 Property offence	.255	.287	.177	.197	-.059	-.301	-.112	.447	-.199	.260	.137	-.118
1.6.1 Junior Kindergarten	-.053	.050	.033	.020	-.044	.060	-.065	.034	.040	.087	.042	-.094
1.6.2 Recreational Activities	-.001	.019	.006	.152	-.013	-.147	-.131	-.030	-.132	.124	.152	-.062
1.6.3 Video Games	.014	-.022	-.145	-.002	.037	.021	-.005	.015	.014	.142	-.078	.032
1.6.4 TV	.029	.058	.105	.095	-.028	-.168	-.077	.118	-.092	.106	.145	-.084
1.6.5 Does things with friends	.088	.057	.028	.024	-.085	-.007	.071	.063	-.049	.039	.021	-.071
1.7.1 School days missed	.192	.046	.112	.075	.072	.033	.062	.024	.089	-.131	.025	.106
2.1.1 PMK Age	-.142	-.305	.021	.009	.029	.165	-.039	-.102	.029	-.010	.081	.014
2.1.2 PMK Gender	-.036	-.051	.111	.067	-.146	-.031	.091	-.097	-.160	-.019	.141	-.045
2.1.3 PMK Years of education	-.174	-.167	-.291	-.111	.325	.188	.087	-.087	.233	-.152	-.236	.087

Table B1 (continued)

Zero-order Correlations Between Independent and Dependent Variables in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	2.4.3	2.4.4	2.5.1	2.5.2	2.6.1	2.6.2	2.7.1	2.7.2	2.7.3	2.7.4	2.8.1	2.9.1
2.2.2 Ratio h/h LICO	-.139	-.177	-.239	-.143	.240	.223	.081	-.105	.190	-.176	-.263	.182
2.2.3 SES	-.197	-.249	-.345	-.184	.268	.243	.040	-.114	.214	-.168	-.322	.118
2.3.1 Single parent status	.338	.281	.143	.241	-.102	-.165	-.016	.078	-.081	.087	.198	-.028
2.3.2 # Siblings	-.011	-.055	-.042	.013	-.033	.076	-.069	.016	.106	.030	-.018	-.076
2.3.4 Time in all care arrangements	-.009	.059	.042	-.023	.106	.024	-.076	.079	-.090	.030	.005	.046
2.4.1 Crowded home	-.117	-.043	.079	-.055	-.095	.120	.034	-.034	.040	-.017	-.081	-.168
2.4.3 Changed School	1	.552	.049	.163	-.034	-.166	-.045	.111	.063	.060	-.007	-.031
2.4.4 Moves	.451	1	.112	.181	.014	-.278	-.041	.105	-.014	.058	.011	-.066
2.5.1 PMK Health	-.004	.039	1	.311	-.199	-.107	-.251	.080	-.214	.111	.306	-.043
2.5.2 PMK Depression	.064	.149	.317	1	-.207	-.138	-.148	.178	-.088	.095	.410	.018
2.6.1 Social Support	-.040	-.070	-.207	-.313	1	-.016	.206	-.062	.196	-.213	-.515	.025
2.6.2 Health Utility Index	-.087	-.242	-.118	-.156	.096	1	-.023	-.244	.112	-.099	-.146	.040
2.7.1 Positive Interactions	-.082	-.041	-.137	-.190	.235	.042	1	-.262	.120	-.417	-.279	.204
2.7.2 Ineffective Parenting	.075	.122	.035	.171	-.058	-.220	-.270	1	-.106	.513	.205	-.121
2.7.3 Consistency	-.014	-.069	-.094	-.079	.182	.190	.079	-.169	1	-.145	-.182	.021
2.7.4 Punitive Discipline	.042	.060	-.040	.044	-.116	-.202	-.397	.577	-.148	1	.333	-.101
2.8.1 Family Functioning	.035	.083	.257	.410	-.553	-.199	-.341	.211	-.250	.275	1	-.055
2.9.1 Read together	-.029	-.047	-.046	-.068	-.002	.047	.266	-.048	.006	-.108	-.049	1
2.9.2 Parent School Involvement												
2.9.3 Support of schooling												
2.9.4 PMK Hours worked	-.057	-.079	-.075	-.125	.117	.053	-.050	-.003	.071	-.004	-.036	-.002
3.1.1 Neighbourhood Safety	-.074	-.027	-.218	-.186	.222	.106	.112	-.098	.135	.002	-.326	-.072
3.1.2 Neighbours	-.069	-.121	-.139	-.152	.359	.210	.189	-.116	.208	-.103	-.379	-.041
3.1.3 Neighbourhood Problems	.034	.052	.084	.150	-.053	-.097	.042	.146	-.030	.031	.071	-.001
3.1.4 City Size	.029	.230	.144	.081	-.068	-.102	-.010	.032	-.102	.032	.092	-.132
4.1.1 School Climate	.071	-.003	.130	.026	-.263	.017	-.247	.165	-.085	.208	.265	-.050
4.1.2 Academic Expectations												
4.1.3 Participative Environment												
4.1.4 Supportive Environment												
4.1.5 Disciplinary Climate												

Table B1 (continued)
Zero-order Correlations Between Independent and Dependent Variables in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	2.9.2	2.9.3	2.9.4	3.1.1	3.1.2	3.1.3	3.1.4	4.1.1	4.1.2	4.1.3.	4.1.4.	4.1.5
Parent rated Prosocial Skills (PPS)	.021	-.028	.008	-.043	.208	.033	-.133	-.185	.018	.128	.061	.041
Teacher rated Prosocial Skills (TPS)	.168	-.404	.110	-.014	.066	.043	.063	-.061	.057	.084	.102	.207
1.1 Gender	-.033	.089	-.129	.254	.004	.008	.130	.063	.012	-.041	-.061	-.049
1.1.1 Health	.015	.065	.046	-.127	-.216	.029	.080	.228	-.035	-.031	.006	.114
1.1.2 Health history	-.019	.054	.040	-.108	-.110	.114	.045	.125	-.029	-.096	-.083	-.006
1.2.1 Physical condition	.046	.025	.056	-.105	-.135	.035	.057	.028	.034	-.129	-.073	.041
1.2.2 Mental condition	-.095	.125	-.065	-.056	-.108	.103	-.037	-.033	.045	-.004	-.051	.044
1.2.3 Special education	.000	-.069	-.014	.063	.161	-.078	.012	-.022	.001	-.126	-.127	-.140
1.3.1 Looks forward to school	-.033	-.011	.074	-.062	.048	-.140	-.023	-.034	.147	-.052	-.017	-.014
1.3.2 School performance	-.131	.265	.015	-.013	-.039	-.001	.030	.072	-.162	-.063	-.002	.023
1.3.3 Academic Skills	.341	-.677	.095	.027	.107	.047	.023	-.081	.241	.014	-.001	.206
1.4.2 # of close friends	.034	-.014	.081	-.013	.045	-.100	.108	.079	.052	-.016	.025	-.022
1.4.3 Gets along with others	-.042	.171	-.037	-.117	-.179	.096	.039	.026	-.164	-.128	-.011	-.064
1.4.4 Gets along with teacher	-.013	.179	.098	-.136	-.154	.039	-.093	.162	-.171	-.081	.032	.017
1.4.5 Gets along with parent	-.034	.083	-.049	-.143	-.077	.106	.079	.105	.011	-.201	-.055	-.206
1.5.1 Affect	-.075	.152	-.021	-.233	-.218	.022	.058	.073	-.048	.127	.080	-.059
1.5.2 Hyperactivity	-.047	.240	-.062	.034	-.140	.087	.085	.126	-.132	-.058	-.020	-.102
1.5.3 Emotional disorder	-.030	.023	.031	-.175	-.143	.217	.180	.100	-.037	-.090	.000	-.116
1.5.4 Aggression	-.004	.100	-.119	-.121	-.203	.150	.139	.020	-.047	-.039	.004	-.076
1.5.5 Indirect aggression	-.048	.062	.049	-.119	-.077	.123	.151	.012	-.091	-.145	-.110	-.099
1.5.6 Property offence	-.100	.087	-.012	-.127	-.157	.171	.169	.064	-.032	-.139	-.113	-.047
1.6.1 Junior Kindergarten	.040	-.058	.128	.170	.094	-.108	.177	-.012	.128	-.087	-.086	.050
1.6.2 Recreational Activities	-.073	-.030	-.039	-.226	-.129	-.051	-.085	.055	.097	.127	.086	.048
1.6.3 Video Games	.181	-.124	-.072	.008	.100	.021	.025	-.121	.039	.065	.035	.188
1.6.4 TV	-.141	.078	.172	-.053	-.135	.030	.043	.045	-.159	-.139	.021	-.044
1.6.5 Does things with friends	-.015	.004	-.053	.038	-.038	.081	.082	.093	.056	-.055	-.057	-.052
1.7.1 School days missed	-.155	.225	-.004	-.154	.026	.086	-.110	-.029	-.191	-.152	-.065	-.110
2.1.1 PMK Age	.126	-.058	.100	.054	.092	-.034	-.173	.048	-.015	.011	.037	.060
2.1.2 PMK Gender	.025	-.032	.195	.051	-.111	-.100	.087	.120	.041	-.028	-.007	-.097
2.1.3 PMK Years of education	.177	-.070	.299	.005	.187	-.014	-.173	-.155	.012	.002	-.015	.023

Table B1 (continued)
Zero-order Correlations Between Independent and Dependent Variables in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	2.9.2	**2.9.3**	**2.9.4**	**3.1.1**	**3.1.2**	**3.1.3**	**3.1.4**	**4.1.1**	**4.1.2**	**4.1.3.**	**4.1.4.**	**4.1.5**
2.2.2 Ratio h/h LICO	.197	-.076	.223	.044	.152	-.102	-.139	-.100	-.074	.019	-.036	.083
2.2.3 SES	.229	-.040	.238	.056	.217	-.059	-.298	-.119	-.043	.042	-.013	-.005
2.3.1 Single parent status	-.124	.104	.016	-.041	-.063	.057	.022	.004	.028	-.062	-.031	.030
2.3.2 # Siblings	-.086	.035	-.039	.114	.052	-.022	.110	-.045	-.021	-.169	-.078	-.026
2.3.4 Time in all care arrangements	-.023	-.009	.309	.032	.026	-.014	-.021	-.010	.027	.018	.011	.087
2.4.1 Crowded home	.046	-.007	-.142	.234	.013	-.063	.116	.057	.066	.004	-.049	-.114
2.4.3 Changed School	-.243	.221	-.059	-.080	-.094	.066	.062	-.003	-.052	-.123	-.127	-.080
2.4.4 Moves	-.183	.145	.013	-.061	-.126	.095	.099	.038	-.026	-.141	-.135	-.101
2.5.1 PMK Health	.058	.013	-.092	-.037	-.188	.036	.088	.149	-.053	-.074	-.037	.065
2.5.2 PMK Depression	.005	.081	-.028	-.091	-.155	.062	.021	.009	.043	.005	.058	.092
2.6.1 Social Support	-.045	.015	.059	.147	.434	.001	-.046	-.250	-.088	-.085	-.104	.013
2.6.2 Health Utility Index	.069	-.177	.024	.122	.164	-.071	-.033	.005	.086	.017	.041	.008
2.7.1 Positive Interactions	-.053	.033	.079	.034	.168	-.003	-.009	-.239	-.033	-.028	-.024	.012
2.7.2 Ineffective Parenting	-.074	.229	-.045	-.115	-.148	.159	.038	.091	-.064	-.093	.039	-.075
2.7.3 Consistency	-.073	-.008	-.061	.155	.223	.031	-.080	-.140	.045	-.044	-.103	-.131
2.7.4 Punitive Discipline	-.053	.113	-.045	-.137	-.245	.137	.051	.273	.173	.011	.104	-.041
2.8.1 Family Functioning	.010	.020	.006	-.288	-.389	.015	.049	.277	.145	.023	.153	.068
2.9.1 Read together	.110	-.097	.044	-.124	.043	-.032	-.028	-.025	-.023	.048	.117	.055
2.9.2 Parent School Involvement	1	-.454	-.008	.097	.020	-.054	-.017	.056	.071	.171	.140	.271
2.9.3 Support of schooling		1	.013	-.081	-.104	.067	-.051	.028	-.160	-.074	-.082	-.195
2.9.4 PMK Hours worked	.006	-.006	1	-.058	.043	-.018	.073	-.019	-.103	-.089	-.080	.078
3.1.1 Neighbourhood Safety	.106	-.052	.039	1	.356	-.252	.208	-.154	-.056	-.152	-.186	-.052
3.1.2 Neighbours	.037	-.097	.031	.499	1	-.081	.102	-.212	-.121	-.131	-.164	-.074
3.1.3 Neighbourhood Problems	-.057	.096	-.028	-.333	-.195	1	-.050	.068	-.004	.051	.027	.049
3.1.4 City Size	.013	-.119	.022	.306	.045	-.011	1	.071	-.016	-.166	-.148	-.072
4.1.1 School Climate	.059	.053	.037	-.189	-.232	.096	.101	1	.057	-.090	-.035	-.172
4.1.2 Academic Expectations									1	.152	.079	.026
4.1.3 Participative Environment										1	.765	.541
4.1.4 Supportive Environment											1	.447
4.1.5 Disciplinary Climate												1

Table B1 (continued)

Zero-order Correlations Between Independent and Dependent Variables in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	1.6.4	1.6.5	1.7.1	2.1.1	2.1.2	2.1.3	2.2.2	2.2.3	2.3.1	2.3.2	2.3.4	2.4.1
Parent rated Prosocial Skills (PPS)	-.045	-.108	.035	-.082	.060	.269	.274	.253	-.169	-.090	-.092	-.039
Teacher rated Prosocial Skills (TPS)	.014	-.041	-.058	.063	-.012	.135	.198	.212	-.080	.084	-.157	-.047
1.1 Gender	-.069	.067	-.125	-.145	.106	-.170	-.166	-.216	.126	.002	.063	.172
1.1.1 Health	.169	-.031	.246	.022	-.018	-.130	-.184	-.187	.108	.001	-.031	-.016
1.1.2 Health history	.093	-.032	.167	-.110	-.003	-.053	-.061	-.064	-.089	-.131	-.044	-.009
1.2.1 Physical condition	.068	.015	.118	-.088	.066	-.094	-.073	-.069	.047	.091	-.097	.010
1.2.2 Mental condition	-.029	.118	.104	.000	.005	-.087	-.019	-.102	.101	-.099	.033	-.013
1.2.3 Special education	.009	-.106	-.021	-.082	.008	.001	-.034	-.016	-.025	.117	-.013	.016
1.3.1 Looks forward to school	-.047	-.085	-.083	.143	.045	.001	.069	.088	-.084	.078	-.055	.031
1.3.2 School performance	.005	.011	.096	.113	-.082	-.054	-.135	-.109	.072	.112	.087	-.004
1.3.3 Academic Skills	-.151	.031	-.139	.034	.011	.151	.188	.214	-.129	-.021	-.084	-.034
1.4.2 # of close friends	.002	-.048	.077	.057	.130	.092	.015	.054	-.086	-.041	.026	-.028
1.4.3 Gets along with others	.200	.004	.087	-.088	-.079	-.055	-.156	-.102	.091	.055	.171	.071
1.4.4 Gets along with teacher	-.061	-.028	.129	.230	-.019	-.046	-.041	-.109	.093	-.008	.306	-.116
1.4.5 Gets along with parent	.165	.000	.107	-.071	.049	-.111	-.165	-.165	.303	-.043	.068	-.035
1.5.1 Affect	-.003	.041	-.037	-.120	-.042	-.072	-.132	-.155	.159	.011	-.048	.006
1.5.2 Hyperactivity	.069	.143	.084	-.099	.065	-.213	-.230	-.310	.241	-.067	.209	.080
1.5.3 Emotional disorder	.104	-.035	.062	-.167	.110	-.153	-.157	-.213	.188	-.035	.066	.059
1.5.4 Aggression	.044	.178	.096	-.094	.037	-.224	-.266	-.311	.153	.101	.041	.120
1.5.5 Indirect aggression	.109	-.026	-.011	-.025	.135	-.083	-.208	-.189	.187	.029	.079	.083
1.5.6 Property offence	.074	.111	.160	-.190	-.026	-.239	-.245	-.294	.319	-.078	.191	-.014
1.6.1 Junior Kindergarten	-.039	.135	-.035	-.147	-.063	-.051	-.122	-.105	.122	-.006	.032	.085
1.6.2 Recreational Activities	-.104	-.052	.117	.121	.049	-.095	-.057	-.100	.032	-.039	.086	-.062
1.6.3 Video Games	-.125	-.068	-.132	.001	-.067	.092	.074	.099	.063	-.015	-.115	-.045
1.6.4 TV	1	-.111	.068	-.104	.121	-.019	-.039	-.043	.010	.072	-.044	-.047
1.6.5 Does things with friends	-.050	1	.071	-.094	-.132	-.102	.029	-.045	-.048	-.023	.007	.067
1.7.1 School days missed	.084	.056	1	-.014	-.086	.010	-.021	-.036	.047	-.124	-.049	-.129
2.1.1 PMK Age	-.077	-.120	-.014	1	.126	.179	.262	.297	-.027	.199	-.038	-.125
2.1.2 PMK Gender	.079	-.073	-.080	.097	1	-.066	-.014	-.073	.054	-.029	-.033	.139
2.1.3 PMK Years of education	-.064	-.142	-.073	.293	-.029	1	.575	.811	-.204	.124	.071	-.103

Table B1 (continued)
Zero-order Correlations Between Independent and Dependent Variables in Parent Sample 1 (below the diagonal) and Parent Sample 2 (above the diagonal)

	1.6.4	1.6.5	1.7.1	2.1.1	2.1.2	2.1.3	2.2.2	2.2.3	2.3.1	2.3.2	2.3.4	2.4.1
2.2.2 Ratio h/h LICO	-.077	-.045	.012	.311	-.004	.553	1	.718	-.276	-.048	.035	-.165
2.2.3 SES	-.079	-.104	-.071	.370	-.036	.806	.721	1	-.330	.204	.030	-.098
2.3.1 Single parent status	.015	-.054	.102	-.047	.004	-.187	-.257	-.327	1	-.182	.097	-.248
2.3.2 # Siblings	.057	.000	-.151	.252	-.043	.133	-.015	.207	-.195	1	-.136	.350
2.3.4 Time in all care arrangements	-.096	-.005	-.090	-.059	-.054	.086	.040	.017	.149	-.127	1	.071
2.4.1 Crowded home	-.060	.127	-.150	-.040	.075	-.027	-.174	-.041	-.295	.387	.018	1
2.4.3 Changed School	.058	.058	.185	-.133	-.077	-.085	-.125	-.109	.251	-.041	-.045	-.006
2.4.4 Moves	.089	.015	.095	-.350	-.075	-.184	-.212	-.236	.252	-.123	.063	-.016
2.5.1 PMK Health	.090	.014	.179	-.011	.028	-.321	-.276	-.355	.159	-.076	.007	-.011
2.5.2 PMK Depression	.102	.032	.092	-.060	.002	-.154	-.150	-.231	.320	-.030	.050	-.101
2.6.1 Social Support	-.003	-.041	-.002	.077	-.143	.331	.258	.316	-.198	-.001	.038	.018
2.6.2 Health Utility Index	-.154	.004	.015	.131	.005	.238	.198	.251	-.202	.040	-.002	.088
2.7.1 Positive Interactions	-.058	.127	.045	-.006	.115	.074	.113	.076	-.105	-.049	-.100	.047
2.7.2 Ineffective Parenting	.119	.067	.031	-.115	-.085	-.134	-.150	-.158	.178	.008	.111	-.006
2.7.3 Consistency	-.058	-.039	-.070	.105	-.033	.270	.190	.272	-.099	.141	-.096	.107
2.7.4 Punitive Discipline	.102	.015	-.092	-.019	-.013	-.132	-.139	-.137	.091	.025	.074	-.024
2.8.1 Family Functioning	.024	.068	.096	-.031	.106	-.267	-.233	-.335	.254	-.084	.039	-.018
2.9.1 Read together	-.083	.076	.056	.003	-.110	.037	.105	.080	-.053	-.051	.005	-.064
2.9.2 Parent School Involvement												
2.9.3 Support of schooling												
2.9.4 PMK Hours worked	-.003	-.038	-.058	.079	.193	.280	.285	.225	.008	-.097	.281	-.065
3.1.1 Neighbourhood Safety	-.002	-.016	-.103	.123	.064	.082	.155	.130	-.103	.105	-.006	.075
3.1.2 Neighbours	-.094	-.020	-.018	.176	-.025	.248	.281	.293	-.195	.109	-.060	.069
3.1.3 Neighbourhood Problems	-.020	.054	.080	-.103	-.083	-.040	-.084	-.073	.046	-.080	-.001	.036
3.1.4 City Size	.080	-.019	.062	-.120	.037	-.188	-.041	-.252	.044	.053	-.018	.067
4.1.1 School Climate	.002	-.055	.065	-.023	.014	-.090	-.076	-.148	.137	-.097	.118	-.018
4.1.2 Academic Expectations												
4.1.3 Participative Environment												
4.1.4 Supportive Environment												
4.1.5 Disciplinary Climate												

Table B2

Zero-order Correlations Between Independent and Dependent Variables in Teacher Sample 1 (below the diagonal) and Teacher Sample 2 (above the diagonal)

	PPS	TPS	1.1.	1.1.1	1.1.2	1.2.1	1.2.2	1.2.3	1.3.1	1.3.2	1.3.3	1.4.2
Parent rated Prosocial Skills (PPS)	1	.329	-.191	-.109	-.126	.007	.034	-.059	-.008	-.081	.175	.168
Teacher rated Prosocial Skills (TPS)	.225	1	-.295	-.130	-.053	-.044	-.124	.088	.097	-.294	.464	-.046
1.1 Gender	-.083	-.318	1	-.042	-.047	.078	.024	-.036	-.184	.078	-.361	-.151
1.1.1 Health	-.081	-.147	.007	1	.500	.209	.197	-.122	.070	.195	-.199	.117
1.1.2 Health history	-.107	-.056	-.046	.488	1	.207	.051	-.036	-.013	-.083	.053	.004
1.2.1 Physical condition	.110	-.116	.122	.170	.178	1	.105	-.085	-.064	.022	-.062	-.176
1.2.2 Mental condition	-.004	-.092	.023	.191	.066	.017	1	-.679	-.104	.356	-.111	-.191
1.2.3 Special education	-.024	.080	.001	-.167	-.131	-.056	-.589	1	.055	-.339	.171	.208
1.3.1 Looks forward to school	.010	.083	-.191	.096	-.016	-.061	-.073	.087	1	-.215	.189	.193
1.3.2 School performance	-.098	-.266	.045	.290	.012	.018	.290	-.313	-.125	1	-.520	.003
1.3.3 Academic Skills											1	.042
1.4.2 # of close friends	.136	-.051	-.026	.080	-.001	-.059	-.110	.161	.062	-.025	.006	1
1.4.3 Gets along with others	-.103	-.161	-.001	.082	.095	.158	.083	-.123	-.096	.254	-.296	-.167
1.4.4 Gets along with teacher	-.139	-.363	-.013	.083	.022	.031	.097	-.071	-.129	.355	-.293	-.007
1.4.5 Gets along with parent	-.216	-.160	.045	.110	.066	.108	.044	-.016	-.029	.160	-.169	-.149
1.5.1 Affect	-.096	-.267	.087	.141	.118	.104	.033	-.034	-.005	.146	-.104	-.007
1.5.2 Hyperactivity	-.205	-.202	.242	.162	.138	.110	.213	-.167	-.220	.349	-.402	-.072
1.5.3 Emotional disorder	-.098	-.059	-.016	.077	.113	.107	.054	-.020	-.074	.107	-.096	-.207
1.5.4 Aggression	-.178	-.217	.206	.159	.040	.219	.085	-.068	-.203	.188	-.302	-.114
1.5.5 Indirect aggression	-.085	-.184	.038	.061	-.022	.108	.042	.017	-.095	.117	-.220	.018
1.5.6 Property offence	-.221	-.273	.167	.100	.012	.085	.193	-.088	-.121	.191	-.282	-.198
1.6.1 Junior Kindergarten	-.074	-.034	.058	.002	.022	.116	-.024	.024	.024	-.066	.071	-.113
1.6.2 Recreational Activities	-.026	.028	-.201	.039	-.006	-.024	.005	-.030	.037	.126	-.014	.000
1.6.3 Video Games	.019	.237	-.234	-.175	-.030	-.104	-.058	.106	-.001	-.098	.072	-.023
1.6.4 TV	-.028	-.028	.001	.188	.104	.070	-.054	-.053	.030	.025	-.149	.013
1.6.5 Does things with friends	-.075	-.078	.046	-.021	.008	-.039	.062	-.058	-.031	.015	.051	-.020
1.7.1 School days missed	.035	-.036	-.067	.215	.185	.040	.108	-.080	-.029	.090	-.185	.022
2.1.1 PMK Age	-.048	.127	-.066	-.035	-.097	-.051	-.007	-.052	.036	.014	-.004	.124
2.1.2 PMK Gender	.029	.004	.044	.036	.029	-.018	.003	.009	.069	-.049	.053	.068
2.1.3 PMK Years of education	.220	.160	-.112	-.163	-.062	-.024	-.069	-.005	-.094	-.167	.091	.114

Table B2 (suite)
Zero-order Correlations Between Independent and Dependent Variables in Teacher Sample 1 (below the diagonal) and Teacher Sample 2 (above the diagonal)

	PPS	TPS	1.1.	1.1.1	1.1.2	1.2.1	1.2.2	1.2.3	1.3.1	1.3.2	1.3.3	1.4.2
2.2.2 Ratio h/h LICO	.174	.209	-.094	-.202	-.050	-.023	-.024	-.019	-.015	-.210	.147	.066
2.2.3 SES	.183	.235	-.110	-.201	-.082	-.029	-.094	.011	.002	-.189	.167	.125
2.3.1 Single parent status	-.072	-.102	.053	.063	-.008	.061	.116	-.039	-.123	.184	-.205	-.065
2.3.2 # Siblings	-.048	.125	-.017	-.011	-.109	.019	-.104	.090	.068	.007	.021	.007
2.3.4 Time in care	-.062	-.133	.062	-.070	-.032	.024	.018	-.007	-.257	.072	-.111	.023
2.4.1 Crowded home	-.020	.007	.109	.021	-.046	-.072	-.029	.031	.021	-.016	.006	-.005
2.4.3 Changed School	-.091	-.075	.032	.041	-.042	-.022	.216	-.078	-.042	.147	-.262	-.102
2.4.4 Moves	-.064	-.198	.133	.110	.061	.058	.192	-.120	-.041	.157	-.214	-.012
2.5.1 PMK Health	-.132	-.176	.025	.333	.139	.113	.063	-.006	.061	.215	-.109	.053
2.5.2 PMK Depression	-.029	-.024	-.036	.168	.058	.125	.082	-.031	.033	.052	-.081	-.120
2.6.1 Social Support	.225	.050	-.015	-.165	-.075	-.029	-.013	-.035	-.070	-.009	-.043	.145
2.6.2 Health Utility Index	.195	.204	-.114	-.219	-.197	-.150	-.103	.132	.034	-.232	.212	.026
2.7.1 Positive Interactions	.271	.048	.163	.000	-.071	-.065	.120	-.074	-.027	-.065	-.002	.161
2.7.2 Ineffective Parenting	-.272	-.105	.092	.108	.128	.120	.117	-.069	-.079	.110	-.236	-.201
2.7.3 Consistency	.114	.153	.036	-.132	-.058	-.036	-.141	.109	.004	-.086	.083	.010
2.7.4 Punitive Discipline	-.263	-.079	.005	.080	.057	.075	.176	-.129	-.012	.168	-.128	-.118
2.8.1 Family Functioning	-.203	-.144	-.069	.241	.089	.038	.071	-.044	.095	.129	-.067	-.132
2.9.1 Read together	.142	-.017	-.064	.009	-.004	.029	.008	.004	.047	-.009	.038	.114
2.9.2 Parent School Involvement												
2.9.3 Support of schooling												
2.9.4 PMK Hours worked	-.008	.064	-.122	-.036	-.017	-.031	-.038	.024	-.074	-.038	-.016	.096
3.1.1 Neighbourhood Safety	-.027	-.058	.240	-.155	-.045	-.089	-.060	.018	-.109	-.076	-.056	.088
3.1.2 Neighbours	.126	.159	.079	-.181	-.097	-.161	-.097	.125	-.037	-.148	.115	.108
3.1.3 Neighbourhood Problems	.057	.125	-.112	.040	.031	-.016	.089	-.079	-.125	.069	-.020	-.160
3.1.4 City Size	-.123	.042	.167	.088	.072	-.070	-.047	.034	-.025	-.062	-.053	.047
4.1.1 School Climate	-.101	-.074	.009	.195	.127	.114	.007	-.003	-.085	.141	-.080	-.047
4.1.2 Academic Expectations												
4.1.3 Participative Environment												
4.1.4 Supportive Environment												
4.1.5 Disciplinary Climate												

Table B2 (suite)

Zero-order Correlations Between Independent and Dependent Variables in Teacher Sample 1 (below the diagonal) and Teacher Sample 2 (above the diagonal)

	1.4.3	1.4.4	1.4.5	1.5.1	1.5.2	1.5.3	1.5.4.	1.5.5	1.5.6	1.6.1	1.6.2	1.6.3
Parent rated Prosocial Skills (PPS)	-.223	-.219	-.289	-.159	-.297	-.158	-.263	-.166	-.300	-.108	.000	.120
Teacher rated Prosocial Skills (TPS)	-.126	-.394	-.189	-.210	-.242	-.062	-.257	-.236	-.303	-.012	.049	.235
1.1 Gender	-.011	-.038	.051	.085	.212	-.007	.216	-.006	.195	.111	-.167	-.246
1.1.1 Health	.125	.134	.123	.108	.180	.059	.172	.149	.102	.057	.060	-.161
1.1.2 Health history	.055	-.004	.006	.116	.127	.077	-.032	-.022	-.052	.048	-.014	.001
1.2.1 Physical condition	.066	-.020	.160	.067	.081	.076	.257	.089	.091	.055	-.089	-.025
1.2.2 Mental condition	.190	.165	.090	.090	.261	.071	.158	.046	.239	-.049	.044	-.093
1.2.3 Special education	-.140	-.078	.013	-.062	-.235	-.001	-.061	-.035	-.086	-.009	-.069	.105
1.3.1 Looks forward to school	-.065	-.062	-.040	-.077	-.139	-.135	-.175	-.038	-.145	.056	-.006	.031
1.3.2 School performance	.253	.393	.141	.176	.384	.065	.158	.091	.166	-.068	.115	-.091
1.3.3 Academic Skills	-.325	-.304	-.178	-.222	-.381	-.065	-.268	-.199	-.270	-.004	-.022	.142
1.4.2 # of close friends	-.189	.066	-.146	-.042	-.099	-.138	-.145	-.008	-.196	-.122	.023	-.009
1.4.3 Gets along with others	1	.305	.526	.083	.447	.282	.334	.295	.364	-.029	-.066	-.046
1.4.4 Gets along with teacher	.389	1	.198	.038	.235	.093	.169	.172	.164	-.077	.072	-.218
1.4.5 Gets along with parent	.496	.253	1	.153	.435	.391	.516	.384	.588	.134	-.095	.051
1.5.1 Affect	.071	-.009	.132	1	.187	.313	.264	.211	.168	.029	-.004	-.009
1.5.2 Hyperactivity	.390	.261	.409	.084	1	.421	.413	.321	.442	.178	-.033	-.100
1.5.3 Emotional disorder	.309	.157	.406	.243	.458	1	.430	.351	.352	.070	.152	-.005
1.5.4 Aggression	.372	.215	.478	.159	.456	.485	1	.542	.592	.092	.015	-.112
1.5.5 Indirect aggression	.316	.205	.333	.124	.359	.398	.560	1	.402	.057	-.038	-.099
1.5.6 Property offence	.326	.156	.525	.124	.462	.436	.625	.431	1	.066	-.012	-.116
1.6.1 Junior Kindergarten	.103	.021	.111	.052	.135	.087	.063	.042	.047	1	-.058	.042
1.6.2 Recreational Activities	-.069	.053	-.108	.048	-.055	.043	-.061	-.066	-.006	-.051	1	.118
1.6.3 Video Games	-.026	-.137	.047	-.063	-.041	.001	-.072	-.025	-.050	.010	.107	1
1.6.4 TV	.128	-.032	.134	.016	.098	.078	.065	.039	.069	-.031	-.103	-.140
1.6.5 Does things with friends	-.004	-.061	-.033	.076	.057	-.035	.101	-.075	.082	.069	-.002	-.062
1.7.1 School days missed	.061	.106	.092	-.054	.043	.066	.031	-.053	.087	-.071	.014	-.042
2.1.1 PMK Age	-.162	.120	-.130	-.112	-.122	-.209	-.077	-.032	-.209	-.122	.037	.018
2.1.2 PMK Gender	-.054	-.019	.047	-.052	.032	.027	.032	.045	-.038	-.044	-.005	.005
2.1.3 PMK Years of education	-.128	-.081	-.124	-.096	-.141	-.175	-.129	-.071	-.198	-.106	-.100	.084

Table B2 (suite)

Zero-order Correlations Between Independent and Dependent Variables in Teacher Sample 1 (below the diagonal) and Teacher Sample 2 (above the diagonal)

	1.4.3	1.4.4	1.4.5	1.5.1	1.5.2	1.5.3	1.5.4.	1.5.5	1.5.6	1.6.1	1.6.2	1.6.3
2.2.2 Ratio h/h LICO	-.142	-.074	-.176	-.093	-.165	-.139	-.183	-.159	-.224	-.095	-.116	.068
2.2.3 SES	-.172	-.131	-.183	-.107	-.238	-.248	-.228	-.164	-.280	-.156	-.141	.073
2.3.1 Single parent status	.189	.220	.260	.051	.264	.269	.220	.280	.311	.110	.073	.103
2.3.2 # Siblings	-.052	-.041	-.088	.018	-.097	-.075	.046	.004	-.110	-.060	-.048	.000
2.3.4 Time in all care arrangements	.228	.305	.082	-.052	.224	.100	.149	.157	.162	.072	.064	-.030
2.4.1 Crowded home	-.080	-.155	-.066	-.020	.007	-.036	.015	-.005	-.040	-.053	-.049	-.091
2.4.3 Changed School	.063	.030	.087	.130	.080	.177	.126	.111	.223	-.061	.007	-.012
2.4.4 Moves	.162	.105	.167	.203	.201	.280	.176	.155	.216	-.015	-.010	-.020
2.5.1 PMK Health	.112	.235	.155	.089	.119	.146	.179	.101	.183	.070	.087	-.169
2.5.2 PMK Depression	.210	.120	.245	.106	.192	.327	.352	.242	.299	.084	.130	.010
2.6.1 Social Support	-.160	-.055	-.110	-.100	-.104	-.146	-.142	-.094	-.069	-.140	-.072	-.018
2.6.2 Health Utility Index	-.146	-.059	-.178	-.523	-.213	-.246	-.219	-.189	-.227	-.012	-.107	.044
2.7.1 Positive Interactions	-.264	-.208	-.265	-.019	-.079	-.205	-.187	-.182	-.139	-.130	-.101	-.023
2.7.2 Ineffective Parenting	.295	.114	.481	.100	.450	.440	.486	.393	.486	.085	-.122	-.067
2.7.3 Consistency	-.112	-.217	-.123	.014	-.122	-.081	-.114	-.119	-.165	.008	-.141	.068
2.7.4 Punitive Discipline	.249	.101	.344	.068	.283	.213	.313	.218	.330	.080	.012	.083
2.8.1 Family Functioning	.195	.157	.176	.083	.178	.230	.196	.188	.184	.120	.173	-.082
2.9.1 Read together	-.092	.004	-.067	.014	-.071	-.075	-.018	-.009	-.079	-.108	-.094	-.047
2.9.2 Parent School Involvement												
2.9.3 Support of schooling												
2.9.4 PMK Hours worked	.040	.111	-.023	-.060	.023	.044	.017	.101	-.065	.014	-.065	-.121
3.1.1 Neighbourhood Safety	-.050	-.097	-.068	-.111	.045	-.109	-.036	-.062	-.082	.061	-.225	.131
3.1.2 Neighbours	-.229	-.208	-.113	-.136	-.068	-.153	-.094	-.076	-.100	-.080	-.141	.150
3.1.3 Neighbourhood Problems	.046	-.027	.058	.009	.058	.183	.122	.051	.117	-.141	.039	-.067
3.1.4 City Size	-.015	-.140	.041	.020	.116	.115	.116	.096	.078	.085	-.133	.007
4.1.1 School Climate	.211	.272	.163	.037	.108	.147	.105	.109	.112	.078	.036	-.165
4.1.2 Academic Expectations												
4.1.3 Participative Environment												
4.1.4 Supportive Environment												
4.1.5 Disciplinary Climate												

Table B2 (suite)
Zero-order Correlations Between Independent and Dependent Variables in Teacher Sample 1 (below the diagonal) and Teacher Sample 2 (above the diagonal)

	2.4.3	2.4.4	2.5.1	2.5.2	2.6.1	2.6.2	2.7.1	2.7.2	2.7.3	2.7.4	2.8.1	2.9.1
Parent rated Prosocial Skills (PPS)	-.156	-.095	-.164	-.050	.279	.241	.350	-.392	.121	-.358	-.310	.187
Teacher rated Prosocial Skills (TPS)	-.065	-.182	-.199	-.048	-.004	.202	.101	-.137	.156	-.106	-.122	-.021
1.1 Gender	.087	.078	.056	-.074	-.046	-.150	.154	.141	.051	-.027	-.016	-.056
1.1.1 Health	.037	.098	.309	.168	-.137	-.190	-.044	.064	-.162	.133	.249	-.028
1.1.2 Health history	-.024	.028	.088	-.033	-.079	-.155	-.092	.091	-.022	.045	.075	.013
1.2.1 Physical condition	.082	.030	.061	.087	-.058	-.133	.089	.141	-.059	.105	.044	.052
1.2.2 Mental condition	.203	.216	.031	.055	-.006	-.114	.118	.143	-.184	.233	.098	.013
1.2.3 Special education	-.111	-.119	.068	.002	-.014	.124	-.099	-.087	.133	-.141	-.075	-.014
1.3.1 Looks forward to school	-.113	-.038	-.022	.091	-.091	.062	-.054	-.084	.019	.015	.131	.020
1.3.2 School performance	.180	.170	.077	-.048	.132	-.210	-.027	.106	-.120	.220	.033	-.108
1.3.3 Academic Skills	-.243	-.195	-.113	-.025	-.042	.252	-.011	-.237	.074	-.161	-.057	.016
1.4.2 # of close friends	-.156	.017	.109	-.127	.140	.042	.137	-.253	-.022	-.125	-.070	.128
1.4.3 Gets along with others	.159	.132	.096	.166	-.110	-.121	-.217	.375	-.095	.291	.164	-.136
1.4.4 Gets along with teacher	.056	.031	.221	.023	.069	-.036	-.180	.131	-.261	.089	.140	-.021
1.4.5 Gets along with parent	.197	.133	.162	.193	-.059	-.140	-.225	.531	-.110	.376	.138	-.089
1.5.1 Affect	.247	.339	.065	.168	-.054	-.456	.029	.193	.023	.083	.076	-.017
1.5.2 Hyperactivity	.129	.143	.084	.085	-.099	-.203	-.020	.470	-.139	.292	.186	-.098
1.5.3 Emotional disorder	.171	.270	.179	.254	-.127	-.208	-.144	.411	-.082	.236	.202	-.120
1.5.4 Aggression	.196	.162	.227	.306	-.205	-.222	-.178	.499	-.155	.329	.207	-.013
1.5.5 Indirect aggression	.133	.167	.175	.184	-.103	-.167	-.171	.379	-.150	.211	.176	.001
1.5.6 Property offence	.334	.192	.220	.227	-.076	-.223	-.123	.484	-.186	.317	.131	-.098
1.6.1 Junior Kindergarten	-.038	.022	.021	.021	-.128	.052	-.074	.109	.104	.084	.141	-.147
1.6.2 Recreational Activities	-.014	.018	.055	.208	.024	-.136	-.117	-.125	-.172	.048	.122	-.106
1.6.3 Video Games	.015	-.040	-.201	-.045	.078	.016	.019	-.083	.102	.096	-.177	.039
1.6.4 TV	.053	.079	.033	.065	.029	-.165	-.096	.136	-.001	.102	.053	-.123
1.6.5 Does things with friends	.053	.003	-.044	.020	-.065	.020	.085	.124	-.006	.073	.088	.011
1.7.1 School days missed	.230	.069	.205	.065	.042	-.016	.018	.040	-.039	-.077	.058	.134
2.1.1 PMK Age	-.149	-.324	.017	-.024	.014	.135	-.078	-.133	.006	-.007	.096	.001
2.1.2 PMK Gender	-.065	-.067	.017	-.013	-.155	-.003	.120	-.042	-.088	.020	.128	-.123
2.1.3 PMK Years of education	-.090	-.173	-.340	-.140	.326	.238	.080	-.169	.256	-.203	-.272	.074

Table B2 (suite)

Zero-order Correlations Between Independent and Dependent Variables in Teacher Sample 1 (below the diagonal) and Teacher Sample 2 (above the diagonal)

	2.4.3	**2.4.4**	**2.5.1**	**2.5.2**	**2.6.1**	**2.6.2**	**2.7.1**	**2.7.2**	**2.7.3**	**2.7.4**	**2.8.1**	**2.9.1**
2.2.2 Ratio h/h LICO	-.191	-.271	-.277	-.131	.231	.192	.163	-.214	.178	-.232	-.241	.203
2.2.3 SES	-.136	-.254	-.403	-.199	.242	.255	.059	-.202	.229	-.208	-.301	.119
2.3.1 Single parent status	.279	.266	.152	.204	-.100	-.205	.020	.166	-.112	.111	.189	-.052
2.3.2 # Siblings	.007	-.050	-.073	-.017	-.063	.089	-.072	.022	.154	.031	-.020	-.083
2.3.4 Time in all care arrangements	-.024	.045	.042	.006	.090	-.003	-.059	.129	-.132	.044	.037	.021
2.4.1 Crowded home	.211	-.027	.065	.051	-.042	.094	-.044	-.009	.089	.044	.019	-.168
2.4.3 Changed School	1	.544	.050	.128	-.069	-.174	-.045	.224	.034	.169	-.005	.032
2.4.4 Moves	.462	1	.153	.197	-.072	-.224	-.038	.099	-.008	.090	.070	-.031
2.5.1 PMK Health	-.021	.121	1	.333	-.235	-.129	-.257	.118	-.190	.124	.394	-.013
2.5.2 PMK Depression	.100	.199	.330	1	-.207	-.110	-.169	.175	-.085	.163	.399	.023
2.6.1 Social Support	-.045	-.118	-.265	-.229	1	.032	.197	-.086	.206	-.209	-.471	.014
2.6.2 Health Utility Index	-.126	-.196	-.172	-.163	.103	1	-.032	-.146	.072	-.122	-.124	.047
2.7.1 Positive Interactions	-.026	-.081	-.197	-.208	.241	.055	1	-.243	.128	-.391	-.325	.202
2.7.2 Ineffective Parenting	.103	.127	.087	.240	-.073	-.166	-.242	1	-.119	.544	.222	-.108
2.7.3 Consistency	-.040	-.048	-.157	-.112	.180	.071	.090	-.111	1	-.142	-.216	.040
2.7.4 Punitive Discipline	.021	.089	.054	.174	-.149	-.142	-.376	.528	-.072	1	.384	-.109
2.8.1 Family Functioning	.020	.100	.324	.371	-.493	-.142	-.293	.228	-.213	.302	1	-.124
2.9.1 Read together	.015	-.042	.012	-.013	.050	.008	.214	-.062	.009	-.096	-.102	1
2.9.2 Parent School Involvement												
2.9.3 Support of schooling												
2.9.4 PMK Hours worked	-.070	-.041	-.156	-.074	.024	.077	.056	-.048	.053	-.069	.012	.045
3.1.1 Neighbourhood Safety	-.193	-.142	-.050	-.146	.085	.094	.048	-.109	.151	-.031	-.219	-.177
3.1.2 Neighbours	-.145	-.194	-.189	-.169	.396	.165	.182	-.146	.216	-.154	-.403	-.031
3.1.3 Neighbourhood Problems	.093	.061	-.028	.072	.015	-.051	.062	.160	.035	.006	.083	.110
3.1.4 City Size	1	-.065	.146	.164	.093	-.094	.000	.044	-.036	.059	.208	-.100
4.1.1 School Climate	.036	.106	.148	.056	-.211	-.044	-.239	.153	-.102	.185	.324	-.003
4.1.2 Academic Expectations												
4.1.3 Participative Environment												
4.1.4 Supportive Environment												
4.1.5 Disciplinary Climate												

Table B2 (suite)

Zero-order Correlations Between Independent and Dependent Variables in Teacher Sample 1 (below the diagonal) and Teacher Sample 2 (above the diagonal)

	2.9.2	**2.9.3**	**2.9.4**	**3.1.1**	**3.1.2**	**3.1.3**	**3.1.4**	**4.1.1**	**4.1.2**	**4.1.3.**	**4.1.4.**	**4.1.5**
Parent rated Prosocial Skills (PPS)	.118	-.129	.039	-.047	.199	.062	-.130	-.190	-.004	.156	.082	.090
Teacher rated Prosocial Skills (TPS)	.160	-.377	.030	-.068	.112	.097	.011	-.045	.078	.093	.076	.152
1.1 Gender	-.136	.168	-.062	.288	.013	-.031	.219	.026	.000	-.035	-.055	-.063
1.1.1 Health	-.078	.247	.024	-.175	-.248	.006	.076	.256	-.084	-.060	-.024	.043
1.1.2 Health history	.044	.024	-.017	-.085	-.152	.065	.031	.193	-.014	-.086	-.060	-.015
1.2.1 Physical condition	.018	.086	-.034	-.096	-.135	.043	.013	.053	.071	-.092	.000	.036
1.2.2 Mental condition	-.075	.202	-.073	-.088	-.147	.109	-.131	.029	.092	.102	.055	.107
1.2.3 Special education	.005	-.112	.031	.058	.187	-.124	.099	.000	-.017	-.146	-.123	-.121
1.3.1 Looks forward to school	.058	-.011	.084	-.066	.005	-.170	-.029	.022	.095	-.064	-.016	-.039
1.3.2 School performance	-.074	.261	-.024	.054	-.037	-.018	-.032	.088	-.188	-.038	.044	-.003
1.3.3 Academic Skills	.336	-.643	-.033	-.029	.156	.008	-.010	-.067	.254	.041	-.049	.107
1.4.2 # of close friends	.070	.072	.126	-.022	.027	-.142	.040	.078	-.020	-.038	-.017	-.040
1.4.3 Gets along with others	-.070	.249	-.022	-.034	-.164	.120	.028	.132	-.158	-.156	.009	-.103
1.4.4 Gets along with teacher	-.040	.236	.094	-.127	-.180	-.003	-.153	.228	-.196	-.056	.060	-.025
1.4.5 Gets along with parent	-.057	.187	.003	-.066	-.039	.052	.094	.112	-.025	-.262	-.042	-.268
1.5.1 Affect	-.056	.208	.046	-.150	-.158	.088	.081	.028	-.120	.123	.108	.016
1.5.2 Hyperactivity	-.099	.259	.071	.041	-.086	.115	.133	.098	-.050	-.074	.031	-.012
1.5.3 Emotional disorder	-.073	.041	.064	-.098	-.091	.262	.182	.137	.013	-.062	.072	-.167
1.5.4 Aggression	-.141	.196	-.095	-.084	-.182	.157	.175	.072	.041	-.015	.083	-.076
1.5.5 Indirect aggression	-.047	.145	.097	-.038	-.057	.044	.131	.080	-.038	-.111	-.052	-.188
1.5.6 Property offence	-.171	.244	-.071	-.055	-.109	.141	.092	.106	.023	-.114	-.062	-.153
1.6.1. Junior Kindergarten	.029	.002	.082	.143	.054	-.162	.121	.032	.131	-.033	-.056	.025
1.6.2 Recreational Activities	-.115	-.092	-.029	-.204	-.086	-.021	-.089	.054	.069	.143	.099	.086
1.6.3 Video Games	.163	-.139	-.171	.042	.174	-.005	-.049	-.151	.112	.112	.037	.145
1.6.4 TV	-.143	.199	.156	-.040	-.168	.048	.048	.022	-.141	-.192	.010	-.179
1.6.5 Does things with friends	-.021	-.021	-.030	.035	.010	.040	.069	-.059	.032	.028	.064	.057
1.7.1 School days missed	-.137	.165	-.024	-.304	-.042	.112	-.076	.055	-.169	-.162	-.041	-.136
2.1.1 PMK Age	.103	-.050	.034	.047	.081	-.114	-.179	.045	-.043	.026	.053	.054
2.1.2 PMK Gender	-.061	.069	.140	.045	-.103	-.063	.070	.076	.107	-.052	-.051	-.177
2.1.3 PMK Years of education	.097	-.051	.290	-.026	.208	-.030	-.197	-.157	.037	.020	-.028	-.015

Table B2 (suite)
Zero-order Correlations Between Independent and Dependent Variables in Teacher Sample 1 (below the diagonal) and Teacher Sample 2 (above the diagonal)

	2.9.2	2.9.3	2.9.4	3.1.1	3.1.2	3.1.3	3.1.4	4.1.1	4.1.2	4.1.3.	4.1.4.	4.1.5
2.2.2 Ratio h/h LICO	.279	-.140	.267	.044	.262	-.038	-.131	-.071	-.033	.028	-.033	.081
2.2.3 SES	.233	-.108	.255	.012	.238	-.033	-.313	-.133	.002	.045	-.015	.022
2.3.1 Single parent status	-.115	.135	-.024	-.069	-.097	.042	.053	.046	-.001	-.066	-.033	-.054
2.3.2 # Siblings	-.147	.056	-.056	.097	.000	-.092	.058	-.019	.023	-.149	-.036	-.059
2.3.4 Time in all care arrangements	.003	-.024	.311	.041	.006	-.049	.031	.084	.026	-.006	-.003	.049
2.4.1 Crowded home	-.088	.050	-.094	.191	.025	-.093	.211	-.023	.087	-.006	-.068	-.119
2.4.3 Changed School	-.198	.198	-.070	-.157	-.184	.058	-.030	.033	-.056	-.047	.005	-.105
2.4.4 Moves	-.235	.227	-.014	-.115	-.195	.097	.103	.095	.010	-.024	.006	-.107
2.5.1 PMK Health	-.010	.124	-.126	-.068	-.214	.013	.075	.172	-.033	-.145	-.076	-.056
2.5.2 PMK Depression	-.033	.104	-.091	-.181	-.176	.122	.106	-.011	.112	.050	.098	.013
2.6.1 Social Support	-.089	.008	.000	.067	.384	-.012	-.101	-.155	-.058	-.055	-.028	-.009
2.6.2 Health Utility Index	.128	-.236	.017	.029	.084	.178	-.076	-.030	.099	.023	.021	.025
2.7.1 Positive Interactions	-.065	.065	.083	.355	-.026	.112	.012	-.264	-.050	.051	-.006	.053
2.7.2 Ineffective Parenting	-.159	.235	-.021	-.095	-.058	-.121	.052	.138	-.033	-.195	.035	-.122
2.7.3 Consistency	-.086	-.087	.019	.070	.166	.238	-.096	-.134	-.018	-.037	-.123	-.098
2.7.4 Punitive Discipline	-.115	.180	-.053	-.161	-.046	-.218	.076	.307	.156	-.022	.116	-.048
2.8.1 Family Functioning	.006	.097	-.034	-.138	-.176	-.390	.147	.294	.129	-.033	.088	.004
2.9.1 Read together	.134	-.098	.027	.090	-.161	.059	-.116	-.016	-.039	.074	.090	.043
2.9.2 Parent School Involvement	1	-.376	-.014	-.025	.071	.102	-.001	.065	.068	.219	.156	.302
2.9.3 Support of schooling		1	.075	.092	-.056	-.186	-.028	.017	-.171	-.101	-.042	-.131
2.9.4 PMK Hours worked	.011	.051	1	.939	-.070	.006	-.022	.028	-.091	-.046	-.063	-.005
3.1.1 Neighbourhood Safety	.101	-.035	-.039	-.009	1	.295	.244	-.130	.043	-.133	-.206	-.083
3.1.2 Neighbours	.118	-.166	.017	.106	.448	1	.076	-.114	-.086	-.097	-.151	-.111
3.1.3 Neighbourhood Problems	-.073	.107	.045	.063	-.374	-.204	-.103	.079	-.057	.102	.118	.045
3.1.4 City Size	.020	-.083	-.027	-.062	.303	-.003	1	.168	.065	-.135	-.115	-.151
4.1.1 School Climate	.061	.071	.087	.016	-.182	-.236	.096	1	-.015	-.118	-.037	-.139
4.1.2 Academic Expectations									1	.137	.046	.092
4.1.3 Participative Environment										1	.736	.623
4.1.4 Supportive Environment											1	.484
4.1.5 Disciplinary Climate												1

Bibliography

Bandura, A. (1989). "Social cognitive theory". In R. Vasta (Ed.), *Annals of child development* (Vol. 6, pp. 1-60). Greenwich, CT: JAI Press.

Barnett, D., Manly, J. T., & Cicchetti, D. (1993). "Defining child maltreatment: The interface between policy and research". In D. Cicchetti & S. L. Toth (Eds.), *Child abuse, child development, and social policy* (pp. 7-73). Norwood, NJ: Ablex.

Bartko, W.T. & Sameroff, A.J., (1995). *A multiple risk model of competence: the protective effects of involvement in organized activities.* Paper presented at the Biennial Meeting of the Society for Research in Child Development, Indianapolis, Indiana.

Beall, A. E. (1993). "A social constructionist view of gender". In A. E Beall & R. J. Sternberg (Eds.), *The psychology of gender* (pp. 127-147). New York: Guilford Press.

Bear, G. G., & Rys, G. S. (1994). "Moral reasoning, classroom behavior, and sociometric status among elementary school children". *Developmental Psychology, 30,* 633-638.

Belsky, J., Youngblade, L. Rovine, M., & Volling, B. (1991). "Patterns of marital change and parent-child interaction". *Journal of Marriage and the Family, 53,* 487-498.

Bernard, B. (1995). *Fostering resiliency in kids: Protective factors in the family, school, and community.* Unpublished Manuscript.

Boivin, M., Hymel, S., & Bukowski, W. M. (1995). "The roles of social withdrawal, peer rejection, and victimisation by peers in predicting loneliness and depressed mood in children". *Development and Psychopathology, 7,* 765-785.

Bradley, R.H., Caldwell, B.M., Rock, S.L., Ramey, C.T., Barnard, K.E., Gray, C., Hammond, M.A., Mitchell, S., Bottfried, A.W., Siegel, L., & Johnson, D.L. (1989). "Home environment and cognitive development in the first 3 years of life: A collaborative study involving six sites and three ethnic groups in North America". *Developmental Psychology, 25,* 217-235.

Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.

Bronfenbrenner, U. (1989). "Ecological systems theory". In R. Vasta (Ed.), *Annals of child development: Vol. 6 Six theories of child development: Revised formulations and current issues* (pp. 187-249). Greenwich, CT: JAI Press.

Bronfenbrenner, U. (1993). "The ecology & cognitive development: research models and fugitive findings". In R.H. Woznick & K. Fisher (Eds.), *Scientific environments* (pp. 3-44). Hillsdale, NH: Erlbaum.

Bronfenbrenner, U. (1995). “Developmental ecology through space and time: A future perspective”. In P. Moen, G.H. Elden, Jr., & K. Luschen (Eds.), *Examining lives context: Perspectives on the ecology & human development.* Washington DC: American Psychological Association

Bronfenbrenner, U., (1997). “Ecological models of human development”. In M. Gauvain & M. Cole (Eds.), *Readings on the Development of Children* (2nd Ed., pp. 37-43). New York: W.H. Freeman and Company.

Bronfenbrenner, U., & Morris, P. A. (1998). “The ecology of developmental processes”. In W. Damon & R. M. Lerner (Eds.), *Handbook of Child psychology: Vol. 1. Theoretical modes of human development* (5th ed., pp. 993-1028). New York: Wiley.

Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models: Applications and data analysis methods.* Newbury Park, CA, USA: Sage Publications, Inc.

Bus, A.G; van IJzendoorn, M.H, & Pellegrini, A.D. (1995) “Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy”. *Review of Educational Research, 65*, 1-21.

Canadian Council on Social Development (1997). *The Progress of Canada's Children-1997.* Ottawa: Canadian Council on Social Development.

Caprara, G. V., Barbaranelli, C., Pastorelli, C., Bandura, A., & Zimbardo, P. G. (2000). “Prosocial foundations of children’s academic achievement”. *Psychological Science, 11,* 302-306.

Caprara, G. V., & Pastorelli, C. (1993). “Early emotional instability, prosocial behaviour, and aggression: Some methodological aspects”. *European Journal of Personality, 7,* 19-36.

Caspi, A., & Silva, P. A. (1995). "Temperamental qualities at age three predict personality traits in young adulthood: Longitudinal evidence from a birth cohort". *Child Development, 66,* 486-498.

Chess, S., & Thomas, A. (1984). *Origins and evolution of behaviour disorders: from infancy to early adult life.* New York: Runner/Mazel.

Chess, S., & Thomas, A. (1990). “The New York Longitudinal Study (NYLS): The young adult periods”. *Canadian Journal of Psychiatry, 35,* 557-561.

Chess, S., & Thomas, A. (1992). “Interactions between offspring and parents in development”. In B. Tizard, & V. Varma (Eds.), *Vulnerability and resiliency in human development* (pp. 72-87). Philadelphia: Jessica Kingsley Publishers.

Cicchetti, D., & Toth, S. L. (1997). "Transactional ecological systems in developmental psychopathology". In S.S. Luthar, J. A. Burack, D. Cicchetti, & J. R. Weisz (Eds.), *Developmental psychopathology: Perspectives on adjustment, risk, and disorder* (pp. 317-349). Cambridge, UK: Cambridge University Press.

Cohn, D.A. (1990). "Child-mother attachment of six-year-olds and social competence at school". *Child Development, 56,* 1299-1313.

Coie, J. D., Lochman, J. E., Terry, R., & Hyman, C. (1992). "Predicting early adolescent disorder from childhood aggression and peer rejection". *Journal of Consulting and Clinical Psychology, 60,* 783-792.

Crick, N. R. (1996). "The role of overt aggression, relational aggression, and prosocial behavior in the prediction of children's future social adjustment". *Child Development, 67(5),* 2317-2327.

Crick, N. R., & Dodge, K. A. (1994). "A review of and reformulation of social-information-processing mechanisms in children's social adjustment". *Psychological Bulletin, 115,* 74-101.

Crick, N. R., & Grotpeter J. (1995). "Relational aggression, gender, and social psychological adjustment". *Child Development, 66,* 710-722.

Cummings, E. M. (1994). "Marital conflict and children's functioning". *Social Development, 3,* 16-36.

Dekovic, M., & Janssens, J. M. A. M. (1992). "Parents' child-rearing style and child's sociometric status". *Developmental Psychology, 28,* 925-932.

Dodge, K. A. (1986). "A social information processing model of social competence in children". In M. Perlmutter (Ed.), *Minnesota Symposium on Child psychology, Vol. 18: Cognitive perspectives on children's social and behavioral development* (pp. 77-125). Hillsdale, NJ: Erlbaum.

Dodge, K. A., Petit, G.S., & Bates, J. E. (1994). "Effects of physical maltreatment on the development of peer relations". *Development and Psychopathology, 6,* 43-55.

Donovan, W. L., Leavitt, L. A., & Walsh, R. O. (1990). "Maternal self-efficacy: Illusory control and its effects on susceptibility to learned helplessness". *Child Development, 61,* 1638-1647.

DuBois, D. L., & Felner, R. D. (1996). "The quadripartite model of social competence: Theory and applications to clinical intervention". In M. A. Reineke, F. M. Dattilio, & A. Freeman (Eds.), *Cognitive therapy with children and adolescents* (pp. 124-152). New York: Guilford.

Dunst, C.J. (1993). "Implications of risk and opportunity factors for assessment and intervention practices". *Topics in Early Childhood Special Education, 13,* 143-153.

Dunst, C., &Trivette, C. (1990). "Assessment of social support in early intervention programs". In S.J. Meisels & J.P. Shonkoff (Eds). *Handbook of early childhood intervention,* (pp. 326-349). Cambridge: Cambridge University Press.

Dunn, J. (2001). "The development of children's conflict and prosocial behaviour: Lessons from research on social understanding and gender". In J. Hill, B. Maughan (Eds.), *Conduct disorders in children and adolescence. Cambridge child and adolescent psychiatry* (pp. 49-66). New York: Cambridge University Press.

Easterbrooks, M.A., & Lamb, M.E. (1979). "The relationship between quality of infant-mother attachment and infant competence in initial encounters with peers". *Child Development, 50,* 380-387.

Eberly, M. B., & Montemayor, R. (1998). "Doing good deeds: An examination of adolescent prosocial behavior in the context of parent-adolescent relationships". *Journal of Adolescent Research, 13,* 403-432.

Eisenberg, N., Fabes, R. A., Murphy, B. C., Shepard, S., Guthrie, I. K., Mazsk, P., Poulin, R., & Jones, S. (1999). "Prediction of elementary school children's socially appropriate and problem behavior from anger reactions at age 4-6 years". *Journal of Applied Developmental Psychology, 20,* 119-142.

Fagan, T. K., & Wise, P. S. (2001). *School psychology: Past, present, and future.* Bethesda, MD: NASP.

Felner, R. D., Lease, A. M., & Phillips, R. S. C. (1990). "Social competence and the language of adequacy as a subject matter for psychology: A quadripartite tri-level framework". In T. P. Gullotta, G. R. Adams, & R. Montemayor (Eds.), *The development of social competence in adolescence* (pp. 245-264). Beverly Hills, CA: Sage.

Franz, C.E, McClelland, D.C, & Weinberger, J. (1991). "Childhood antecedents of conventional social accomplishment in midlife adults: A 36-year prospective study". *Journal of Personality & Social Psychology, 60*, 586-595.

Goodman, S. H., Brogan, D., Lynch, M. E., & Fielding, B. (1993). "Social and emotional competence in children of depressed mothers". *Child Development, 64,* 516-531.

Gottman, J. M., & Katz, L. F. (1989). "Effects of marital discord on young children's peer interaction and health". *Developmental Psychology, 25,* 373-381.

Gresham, F. M., & Reschly, D. J. (1988). "Issues in the conceptualization, classification, and assessment of social skills in the mildly handicapped". In T. R. Kratochwill (Ed.), *Advances in school psychology, Vol. 6* (pp. 203-247). Hillsdale, NJ: Erlbaum.

Guralnik, M.J. (1993). "Second generation research on the effectiveness of early intervention". *Early Education and Development, 4*, 366-378.

Health Canada (1999). *Healthy development of children and youth: The role of the determinants of health.* Ottawa, Ontario: Health Canada.

Hernandez, D.J. (1997). "Child development and the social demography of childhood". *Child Development, 68,* 149-169.

Honig, A.S. (1986). "Stress and coping in children: II. Interpersonal family relationships". *Young Children, 41,* 47-59.

Howes, P., & Cicchetti, D. (1993). "A family/relational perspective on maltreating families: Parallel processes across systems and social policy implications". In D. Cicchetti & S. L. Toth (Eds.), *Child abuse, child development and social policy* (pp. 249-300). Norwood, NJ: Ablex.

Hupp, S. D. A., & Reitman, D. (1999). "Improving sports skills and sportsmanship in children diagnosed with attention-deficit/hyperactivity disorder". *Child and Family Behavior Therapy*, 21(3), 35-51.

Huston, A. C., Wright, J. C., Marquis, J., & Green, S. B. (1999). "How young children spend their time: Televising and other activities". *Developmental Psychology*, 35, 912-925.

Katz, L. F., Kramer, L., & Gottman, J. M. (1992). "Conflict and emotions in marital, sibling, and peer relationships". In C. U. Shantz & W. W. Hartup (Eds.), *Conflict in child and adolescent development* (pp. 122-149). New York: Cambridge University Press.

Kershner, J. G., Cohen, N. J. (1992). "Maternal depressive symptoms and child functioning". *Journal of Applied Developmental Psychology, 13,* 51-63.

Kochanska, G., & Kuczynski, L. (1991). "Maternal autonomy granting: Predictors of normal and depressed mothers' compliance and noncompliance with the requests of five-year-olds". *Child Development, 62,* 1449-1459.

Kumpfer, K.L. (1999). "Factors and processes contributing to resilience: The resilience framework". In M.D. Glantz, J.L. Johnson et al. (Eds.), *Resilience and development: Positive life adaptations* (pp. 179-224). New York: Plenum Press.

Lefebvre, P. & Merrigan, P. (1998). *Family background, family income, maternal work and child development.* Applied Research Branch Strategic Policy: Human Resources Development Canada. Working paper, W-98-12E.

Lindahl, K.M. (1998). "Family process variables and children's disruptive behavior problems". *Journal of Family Psychology, 12,* 420-436.

Lytton, H. (2000). "Toward a model of family environmental and child-biological influences on development". *Developmental Review, 20,* 150-179.

Main, M., Kaplan, N., & Cassidy, J. (1985). "Security in infancy, childhood, and adulthood: A move to the level of representation". *Monographs of the Society for Research in Child Development,* 50 (1-2, Serial No. 209).

Mangham, C., McGrath, P., Reid, G., & Stewart, M. (1994). *Resiliency: Relevance to health promotion. Detailed analysis.* Halifax: Atlantic Health Promotion Research Center, Dalhousie University.

Martin, R. P., Noyes, J., Wisenbaker, J., & Huttunen, M. O. (1999). "Prediction of early childhood negative emotionality and inhibition from maternal distress during pregnancy". *Merrill palmer Quarterly, 45,* 370-391.

Masten, A., & Coatworth, J. (1998). "The development of competence in favourable and unfavourable environments: Lessons from research on successful children". *American Psychologist, 53,* 205-220.

McCubbin, H.I., McCubbin, M.A., & Thompson, A.I. (1993). "Resiliency in families". In T.H. Brubaker (Ed.), *Family relations: Challenges for the future* (pp. 153-177). Newbury Park, CA: Sage.

Merrell, K. W., & Wolfe, T. M. (1998). "The relationship of teacher-rated social skills deficits and ADHD characteristics among kindergarten-age children". *Psychology in the Schools, 35(2),* 101-110.

Miller, N. B., Cowan, P. A., Cowan, C. P., Hetherington, E.M., & Clingempeel, W. G. (1993). "Externalizing in preschoolers and early adolescents: A cross-study replication of a family model". *Developmental Psychology, 29,* 3-18.

Mussen, P. H., & Eisenberg-Berg, N. (1977). *Roots of caring, sharing, and helping: The development of prosocial behavior in children.* San Francisco: W.H. Freeman.

National Forum on Health (1997). *National Forum on Health: Determinants of Health Working Group Synthesis Report.* Ottawa, Ontario: Minister of Public Works and Government Services Canada. Cat. No.: H21-126\3-1997E.

Newcomb, A., Bukowski, W. M., & Pattee, L. (1993). "Children's peer relations: A meta-analytic review of popular, rejected, and neglected, controversial, and average sociometric status". *Psychological Bulletin, 113,* 99-128.

Parker, J., & Asher, S. R. (1987). "Peer relations and later personal adjustment: Are low accepted children at-risk?" *Psychological Bulletin, 102,* 375-389.

Pellegrini, D.S., (1990). "Psychosocial Risk and Protective Factors in Childhood". *Journal of developmental and Behavioral Pediatrics, 11*(4), 201-209.

Pettit, G. S., Harrist, A. W., Bates, J. E., & Dodge, K. A. (1991). "Family interaction, social cognition and children's subsequent relations with peers in kindergarten". *Journal of Social and Personal Relationships, 8,* 383-402.

Posner, J. K., & Vandell, D. L. (1999). "After-school activities and the development of low-income urban children: A longitudinal study". *Developmental Psychology, 35(3),* 868-879.

Power, C., Manor, O., & Fox, A.J. (1991). *Health and class: The early years.* London: Chapman & Hall.

Reynolds, A.J., Mavrogenes, N.A., Bezruczko, N., & Hafemann, M. (1996). "Cognitive and family-support mediators of preschool effectiveness: A confirmatory analysis". *Child Development, 67*, 1119-1140.

Rinaldi, C. M., Brown, A., Ross, S., Heath, N. L., & Smith, T. (1996). "Exceptionality and risk for depression: An examination of the literature". *Exceptionality Education Canada, 6*, 159-182.

Rose, A. J., & Asher, S. R. (1999). "Children's goals and strategies in response to conflicts within a friendship". *Developmental Psychology, 35*, 69-79.

Rose-Krasnor, L. (1997). "The nature of social competence: A theoretical review". *Social Development, 6*, 111-135.

Rubin, K. H., & Krasnor, L. (1986). "Social-cognitive and social behavioral perspectives on problem solving". In M. Perlmutter (Ed.), *The Minnesota Symposia on Child psychology, Vol. 18: Cognitive perspectives on children's social and behavioral development* (pp. 1-18). Hillsdale, NJ: Erlbaum.

Rubin, K. H., & Rose-Krasnor, L. (1992). "Interpersonal problem solving". In V. B. Van Hassett & M. Hersen (Eds.*), Handbook of social development* (pp. 283-323). New York: Plenum.

Rushton, J. P. (1975). "Generosity in children: Immediate and long-term effects of modelling, preaching, and moral judgment". *Journal of Personality and Social Psychology, 31*, 459-466.

Rutter, M. (1987). "Psychosocial resilience and protective factors". *American Journal of Orthopsychiatry, 57*(3): 316-331.

Rys, G. S., & Bear, G. G. (1997). "Relational aggression and peer relations: Gender and developmental issues". *Merrill-Palmer Quarterly*, 43, 87-106.

Sameroff, A.J., & Chandler, M.J. (1975). "Reproductive risk and the continuum of caretaking causality". In F.D. Horowitz (Ed.), *Review of child development research.* (Vol. 4, pp. 187-244). Chicago: University of Chicago Press.

Sameroff, A., & Fiese, B.H. (1990). "Transactional regulation and early intervention". In S.J. Mikels & J.P. Shonkoff (Eds), *Handbook of early childhood intervention* (pp. 119-149). Cambridge: Cambridge University Press.

Sameroff A.J. & Fiese, B.H. (2000) "Models of Development and Developmental Risk". In Charles, H. Zeanah, Jr. (Ed.). *Handbook of Infant Mental Health Second Edition.* Guilford Press. N.Y.

Sameroff, A. J., Seifer, R., Baldwin, A., & Baldwin, C. (1993). "Stability of intelligence from preschool to adolescence: The influence of social and family risk factors". *Child Development, 64*, 80-97.

Segrin, C. (2000). "Social skills deficits associated with depression". *Clinical Psychology Review, 20,* 379-403.

Semrud-Clikeman, M., & Schafer, V. (2000). "Social and emotional competence in children with ADHD and/or learning disabilities". *Journal of Psychotherapy in Independent Practice, 1(4),* 3-19.

Snijders, T. A. B. & Bosker, R. J. (1999). *Multilevel analysis.* London: Sage

Sroufe, L. A., Cooper, R. G., DeHart, B. B. (1996). *Child development: Its nature and course* (3rd ed.). New York: Knopf.

Stanovich, K. E. (1986). "Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy". *Reading Research Quarterly, 21*, 360-407.

Stormshak, E. A., Bierman, K. L., McMahon, R. J., Lengua, L. J. (2000). "Parenting practices and child disruptive behavior problems in early elementary school". *Journal of Clinical Child Psychology, 29,* 17-29.

Thomas, A., & Grimes, J. (1995). *Best practices in school psychology.* Washington, DC: NASP.

Tremblay, R.E., Masse, B., Perron, D., & LeBlanc, M. (1992). « Disruptive behavior, poor school achievement, delinquent behavior, and delinquent personality: Longitudinal analyses". *Journal of Consulting and Clinical Psychology, 60*, 64-72.

Vaughn, S., Erlbaum, B., & Boardman, A. G. (2001). "The social functioning of students with learning disabilities: Implications for inclusion". *Exceptionality, 9,* 47-66.

Vaughn, S., & Hogan, A. (1990). "Social competence and learning disabilities: A prospective study" In H. L. Swanson & B. K. Keogh (Eds.), *Learning disabilities: Theoretical and research issues* (pp. 175-191). Hillsdale, NJ: Erlbaum.

Volling, B. L., & Belsky, J. (1992). "The contribution of mother-child and father-child relationships to the quality of sibling relationships: A longitudinal study". *Child Development, 63,* 1209-1222.

Warden, D., Christie, D., Kerr, C., & Low, J. (1996). "Children's prosocial and antisocial behavior, as perceived by children, parents, and teachers". *Educational Psychology, 16,* 365-378.

Wemer, E. E. (1996). "How children become resilient: Observations and cautions". *Resiliency in Action, 1,* 18-28.

Wentzel, K. R., & McNamara, C. C. (1999). "Interpersonal relationships, emotional distress, and prosocial behavior in middle school". *Journal of Early Adolescence, 19,* 114-125.

Wilgosh, L., Scorgie, K., & Fleming, D. (2000). "Effective life management in parents of children with disabilities: A survey replication and extension". *Developmental Disabilities Bulletin,28*, 1-14.

Williams, S., Anderson, J., McGee, R., & Silva, P.A. (1990); "Risk factors for behavioural and emotional disorder in preadolescent children". *Journal of the American Academy of Child and Adolescent Psychiatry, 29,* 413-419.

World Health Organization (1986). *Ottawa Charter for Health Promotion.* Ottawa, Canada.

Wright, J. C., Huston, A. C., Murphy, K. C., St. Peters, M., Piñon, M., Scantlin, R., & Kotler, J. (2001). "The relations of early television viewing to school readiness and vocabulary of children from low-income families: The early window project". *Child Development, 72(5),* 1347-1366.

Wright, J. C., & Huston, A. C. (1995). *Effects of educational TV viewing of lower income preschoolers on academic skills, school readiness, and school adjustment one to three years later.* Lawrence, KS: Center for Research on the Influences of Television on Children.

Yoshikawa, H. (1995). "Long-term effects of early childhood programs on social outcomes and delinquency". *The Future of Children, 5*(3), 51-75.

Zimmerman, J. D. (1996). "A prosocial media strategy: 'Youth Against Violence: Choose to De-Fuse'". *American Journal of Orthopsychiatry, 66(3),* 354-362.